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# The World Trade Center Disaster: Health Effects and Compensation Mechanisms

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## THE WORLD TRADE CENTER DISASTER: HEALTH EFFECTS AND COMPENSATION MECHANISMS

*John Howard, M.D., J.D.\**

### INTRODUCTION

On September 11, 2001, terrorists hijacked and flew a Boeing 767-200 aircraft (American Airlines Flight 11) into the North Tower of the World Trade Center (“WTC”) in downtown Manhattan at 8:46 a.m. local time and a second Boeing 767-200 aircraft (United Airlines Flight 175) into the South Tower at 9:02 a.m. Within two hours, both of the twin towers (1 WTC and 2 WTC), and later 7 WTC, collapsed killing 2,752 people,<sup>1</sup> including 343 firefighters from the Fire Department of New York City (“FDNY”).<sup>2</sup> Those who perished in the WTC disaster died from consequences of major trauma, massive building collapse, life-terminating burns, overwhelming smoke inhalation and falls from a great height.

The WTC disaster triggered a massive emergency response

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<sup>1</sup> Phil Hirschhorn, *New York Reduces Death Toll by 40*, CNN, Oct. 29, 2003, available at <http://www.cnn.com/2003/US/Northeast/10/29/wtc.deaths/>.

<sup>2</sup> David J. Prezant et al., *Cough and Bronchial Responsiveness in Firefighters at the World Trade Center Site*, 347 NEW ENG. J. MED. 806, 809 (2002) [hereinafter Prezant et al., *Cough and Bronchial Responsiveness*].

involving thousands of early-arriving responders and volunteers—both previously trained volunteers and “spontaneous” or “unaffiliated” volunteers. Many of these responders escaped from, or witnessed the collapse of, the WTC Twin Towers. Thousands of later-arriving responders and volunteers engaged in search and rescue activities to free those who were trapped in the rubble of the collapsed towers. Over the ensuing days and months, many more thousands of responders and volunteers from all over the United States worked tirelessly in activities involving the recovery and cleanup of the WTC site and the streets, residences and commercial buildings in Lower Manhattan; the transport of debris to barge stations located along the west side of Lower Manhattan; the receipt and handling of debris at the Staten Island Landfill; and the forensic examination of human remains at the New York City (“NYC”) Medical Examiners Office.<sup>3</sup> From the time of the collapse until the last fire at the WTC site was extinguished on December 20, 2001, responders—and others in the nearby residential and commercial building communities—were exposed to debris, dust and smoke composed of several different types of hazardous substances.<sup>4</sup>

During their heroic service in responding to the WTC disaster, and during the years following the WTC disaster, some of those involved in rescue, recovery and cleanup efforts, and some nearby residents and other building occupants, including school children and school staff, have developed new or worsened aerodigestive and mental health-related illnesses.

This article provides a summary of the medical and legal issues that the occurrence of adverse health effects following the WTC disaster have generated. Part I of the article summarizes the nature of WTC exposures and the populations exposed to debris, dust and smoke from the WTC collapse. Part II of the article describes the health effects seen in WTC responders (rescue, recovery and cleanup workers and volunteers), residents, building occupants and

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<sup>3</sup> Philip Landrigan et al., *Health and Environmental Consequences of the World Trade Center Disaster*, 112 ENVTL. HEALTH PERSP. 731, 731, 733 (2004).

<sup>4</sup> *Id.*

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passersby, students and school staff. Part III of the article summarizes the mechanisms used to compensate the losses sustained by individuals and businesses as a result of the WTC disaster, including charitable giving, government aid, insurance payments and tort awards.

## I. EXPOSURES

The combustion of 90,000 liters of jet fuel at high temperatures led to the weakening of the WTC's structural steel members and within two hours resulted in their dramatic collapse.<sup>5</sup> The collapse of the towers pulverized the cement exterior of two of the largest buildings in the United States as well as much of their interior contents.<sup>6</sup> The energy of the collapse, together with the prevailing winds from the west, immediately dispersed a dense plume of debris, dust and smoke over a wide area of Lower Manhattan and into western Brooklyn.<sup>7</sup> After the collapse, debris from the twin towers formed a six-story pile of rubble which was referred to as *Ground Zero* or, simply, the *Pile*.<sup>8</sup> Demolition and removal of thousands of tons of debris began in October 2001 when the fires at Ground Zero became less intense.<sup>9</sup> Fires continued to smolder, generating toxic combustion products, until December 20, 2001.<sup>10</sup>

Collapse of the WTC towers resulted in an intense, short-term exposure to a rapidly dispersing plume consisting of both

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<sup>5</sup> Steven Ashley, *When the Twin Towers Fell*, SCIENTIFIC AMERICAN ONLINE, Oct. 9, 2001, <http://www.sciam.com/article.cfm?articleID=000B7FEB-A88C-1C75-9B81809EC588EF21&sc=I100322>.

<sup>6</sup> Landrigan et al., *supra* note 3, at 731.

<sup>7</sup> Landrigan et al., *supra* note 3, at 734.

<sup>8</sup> "The 'Pile' was the name used by the site rescue, recovery and removal workers to describe the colossal amount of debris after the attacks. The workers avoided using the name 'Ground Zero,' which describes the location on the ground where any explosion occurs, but it nonetheless became synonymous with the World Trade Center site." See Wikipedia.org, World Trade Center Site, [http://en.wikipedia.org/wiki/World\\_Trade\\_Center\\_site](http://en.wikipedia.org/wiki/World_Trade_Center_site) (last visited November 8, 2007).

<sup>9</sup> *Id.*

<sup>10</sup> *Id.*

particulate and gaseous contaminants affecting a large number of people in Lower Manhattan and western Brooklyn.<sup>11</sup> Within days, both the composition and the intensity of this initial, short-term exposure event changed into a more sustained contact, involving re-suspended dust particles from rescue and recovery activities and gases from the slow combustion of debris.<sup>12</sup> These later exposure events were of particular concern for all exposed persons, including responders, residents, building occupants, students and school staff living and working in proximity to Ground Zero.<sup>13</sup>

WTC exposures can best be understood as a temporal sequence of five exposure categories of varying intensity.<sup>14</sup> The first exposure category occurred during the first 12 hours after the collapse, during the most intense exposure to rescuers, residents, commercial building occupants and people in transit and when they were exposed to the highest concentration of large and small particles and various gases.<sup>15</sup> The second exposure category occurred twelve hours after the collapse up to the first rain on September 14, 2001 at which time WTC-affected groups were exposed to large and small particles that were periodically re-suspended, as well as to gases which were emitted from intense fires at Ground Zero.<sup>16</sup> The third exposure category consisted of the time period from September 15, 2001 until the second rain on September 25, 2001, when exposure to re-suspended particles and gases lessened because of the rain but still continued at a lower level of intensity.<sup>17</sup> The fourth exposure category encompassed the

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<sup>11</sup> Paul J. Liroy & Panos Georgopoulos, *The Anatomy of the Exposures That Occurred around the World Trade Center Site: 9/11 and Beyond*, 1076 ANN. OF THE N.Y. ACAD. OF SCI. 54, 55 (2006).

<sup>12</sup> *Id.* at 56–57.

<sup>13</sup> Luz Claudio, *Environmental Aftermath*, 109 ENVTL. HEALTH PERSP. 11, A529–A536 (2001).

<sup>14</sup> Paul J. Liroy et al., *The World Trade Center Aftermath and Its Effects on Health: Understanding and Learning through Human-Exposure Science*, 40 ENVTL. SCI. & TECH. 6876, 6878–85 (2006) [hereinafter Liroy et al., *WTC Aftermath and Its Effects on Health*].

<sup>15</sup> *Id.* at 6878–79.

<sup>16</sup> *Id.* at 6879.

<sup>17</sup> *Id.*

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time period from September 26, 2001 until the fires were extinguished in late December 2001, when smoke continued to be emitted from fires at Ground Zero but gradually lessened in intensity, and when particle re-suspension occurred only in debris removal and transport activities.<sup>18</sup> The fifth exposure category is the time period from September 11, 2001 to present, when settled dust in indoor spaces can be disturbed by cleanup and building demolition and reconstruction activities.<sup>19</sup>

During these five periods of exposure, WTC-affected populations sustained varying, but largely unknown, levels of exposure to a long list of toxic agents generated by the collapse of the WTC.<sup>20</sup> Among these were asbestos fibers (from insulation and fireproofing materials); concrete and the crystalline silica it contained (made from Portland cement and used in the Towers' construction); carbon monoxide (from fires and engine exhaust); diesel particulates (from vehicle engine exhaust); mercury (from fluorescent lights); heavy metals such as aluminum, titanium, chromium, zinc and manganese (from building materials and furnishings); hydrogen sulfide (from sewers, decomposing human remains and spoiled foodstuffs); inorganic acids; volatile and semi-volatile organic compounds ("VOCs"); polynuclear aromatic hydrocarbons ("PAHs"); polychlorinated biphenyls ("PCBs"); polychlorinated dioxins ("PCDDs") and furans ("PCDFs"); various pesticides; and other toxic agents.<sup>21</sup>

*A. Settled and Airborne Dust*

Characterization of the settled and airborne dust generated by the WTC collapse has been reported in several different studies conducted by both public and private parties.<sup>22</sup> Despite being quite

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<sup>18</sup> *Id.*

<sup>19</sup> *Id.* at 6879.

<sup>20</sup> K. McKinney et al., *Occupational Exposures to Air Contaminants at the World Trade Center Disaster Site—New York, September–October, 2001*, 51 MORBIDITY AND MORTALITY WKLY. REP. 453, 453 (2002).

<sup>21</sup> *Id.*

<sup>22</sup> See, e.g., Claudio, *supra* note 13, at A528; Paul J. Liroy et al., *Characterization of the Dust/Smoke Aerosol that Settled East of the World*

encyclopedic, many of these studies do not provide a quantitative picture of individual or even group exposure levels because, on the day of the disaster when the most concentrated exposures occurred, no air-sampling monitors were operating close to the WTC site “to characterize and quantify pollutants in the dust cloud.”<sup>23</sup> Some general estimates do exist. For instance, the U.S. Environmental Protection Agency estimated that levels of airborne dust around the WTC site immediately after the collapse ranged from a level of 1,000 to greater than 100,000 micrograms per cubic meter.<sup>24</sup> Most studies note significant surface contamination; the amount of dust particles that coated surfaces after the WTC collapse ranged from 1-3 centimeters (“cm”) indoors to more than 10 cm outdoors.<sup>25</sup>

Most of the settled dust was composed of construction materials such as pulverized cement, wallboard, office furnishings and glass fibers.<sup>26</sup> More than 95 percent by weight were composed of large particles (particle diameters of greater than 10  $\mu\text{m}$  and up to 50  $\mu\text{m}$ ), but 1 to 4 percent of particles were small enough (less

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*Trade Center in Lower Manhattan after the Collapse of the WTC 11 September 2001*, 110 ENVTL. HEALTH PERSP. 703 (2002) [hereinafter Lioy et al., *Dust/Smoke Aerosol after Collapse of the WTC*]; Landrigan et al., *supra* note 3, at 112; John K. McGee et al., *Chemical Analysis of World Trade Center Fine Particulate Matter for Use in Toxicologic Assessment*, 111 ENVTL. HEALTH PERSP. 972 (2003); Kenneth Wallingford & Erin Snyder, *Occupational Exposures During the World Trade Center Response*, 17 TOXICOLOGY AND INDUS. HEALTH 247 (2001); NAT’L CTR. FOR ENVTL. ASSESSMENT OFFICE OF RESEARCH AND DEV., EPA, *Exposure and Human Health Evaluation of Airborne Pollution from the World Trade Center Disaster (External Review Draft)*, EPA/600/P-2/002A (2002), available at <http://cfpub.epa.gov/ncea/CFM/recordisplay.cfm?deid=54667> [hereinafter Exposure Evaluation].

<sup>23</sup> Stephen H. Gavett, *World Trade Center Fine Particulate Matter—Chemistry and Toxic Respiratory Effects: An Overview*, 111 ENVTL. HEALTH PERSP. 971 (2003).

<sup>24</sup> Exposure Evaluation, *supra* note 22, at 30.

<sup>25</sup> Lioy et al., *Dust/Smoke Aerosol after Collapse of the WTC*, *supra* note 22, at 712. Even though the measured levels of contamination appear small and on the surfaces of objects only, such levels do, however, represent the potential for significant respiratory exposure when such contamination is re-suspended by prevailing winds or human activity. *Id.*

<sup>26</sup> McGee et al., *supra* note 22, at 972.

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than or equal to 2.5 µm in diameter) to travel deep in the lungs, where their deposition has been associated with adverse cardiovascular and respiratory health effects.<sup>27</sup> Exposure to these harmful small particles was not constant as air concentrations at several different locations in Manhattan show a series of peaks and valleys during different times in September and October of 2001.<sup>28</sup> These particles are usually deposited in the nasal passages, but when exposures are intense—as in the first 12 hours of the WTC disaster—or individuals engage in mouth breathing (as opposed to nasal breathing), large particles can be deposited farther down the respiratory tract.<sup>29</sup>

From the perspective of potential damage to the lung tissues, a critical finding about particle composition and chemistry was that both coarse and fine particles were found to be highly alkaline in nature with a pH of greater than 7.0 to over 11.0—levels of alkalinity that are corrosive to the cells lining the respiratory tract.<sup>30</sup>

The published studies of settled and airborne dust also include samples of specific toxins that are known to cause long-term health effects, such as cancer and chronic scarring (or fibrosis) of the lungs.<sup>31</sup> Because cancer-causing asbestos was used as fire insulation in the construction of the North Tower up to the 40<sup>th</sup> floor,<sup>32</sup> it is not surprising that samples of the material coating the collapsed steel beams verified that the coating contained 20 percent by

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<sup>27</sup> Liroy et al., *Dust/Smoke Aerosol after Collapse of the WTC*, *supra* note 22, at 707.

<sup>28</sup> George Thurston et al., *Identification and Characterization of World Trade Center Fine Particulate Matter Air Pollution at a Site in Lower Manhattan following September 11*, 14 EPIDEMIOLOGY S87, S88 (2003).

<sup>29</sup> Liroy et al., *WTC Aftermath and Its Effects on Health*, *supra* note 14, at 6880.

<sup>30</sup> Liroy et al., *Dust/Smoke Aerosol after Collapse of the WTC*, *supra* note 22, at 707.

<sup>31</sup> WILLIAM N. ROM & STEVEN MARKOWITZ, ENVIRONMENTAL AND OCCUPATIONAL MEDICINE (Lippincott, Williams & Wilkin eds., 4th ed. 2006).

<sup>32</sup> W.B. Reitze et al., *Application of Sprayed Inorganic Fiber Containing Asbestos: Occupational Health Hazards*, 33 AM. INDUS. HYGIENE ASS'N J. 178, 180 (1972).



volume of chrysotile asbestos.<sup>33</sup> Asbestos fibers were also found to represent from 0.8 to 3.0 percent by weight of settled dust.<sup>34</sup> Despite being detected in settled dust, only 22 of several thousand air samples taken during the earliest days after September 11, 2001, revealed a concentration of asbestos fibers greater than the upper limit of 70 fibers/square millimeter established in the Asbestos Hazard Emergency Response Act (AHERA).<sup>35</sup> Particles of crystalline silica were found in all but one of twenty-seven settled dust samples taken with concentrations by weight ranging from 0 to 18 percent (median of 3.2 percent), but silica particles that could be inhaled into the lungs were not detected in any of 18 air samples.<sup>36</sup>

Undoubtedly, individual exposures to asbestos fibers, crystalline silica, and other cancer-causing agents took place following the WTC collapse, but it is very difficult to quantitatively document such exposure retrospectively since contemporaneous records of individual breathing zone exposures were not made. Also, an estimated 100 to 1,000 tons of cancer-causing PAHs were spread over a localized area of Lower Manhattan.<sup>37</sup> Air sampling for PAHs during the first two months after September 11, 2001 revealed levels greater at Ground Zero than in other areas of Manhattan, but those levels declined between September 11 and December 20, 2001 as the fires subsided.<sup>38</sup> Levels of PCBs, PCDDs and PCDFs were found in a detectable

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<sup>33</sup> ROGER N. CLARK ET AL., ENVIRONMENTAL STUDIES OF THE WORLD TRADE CENTER AREA AFTER THE SEPTEMBER 11, 2001 ATTACK, U.S. GEOLOGICAL SURVEY, OPEN FILE REPORT OFR-01-0429 (2001), available at <http://geology.cr.usgs.gov/pub/open-file-reports/ofr-01-0429/>.

<sup>34</sup> Liroy et al., *Dust/Smoke Aerosol after Collapse of the WTC*, *supra* note 22, at 707.

<sup>35</sup> U.S. Environmental Protection Agency, EPA Response to September 11, <http://www.epa.gov/wtc/asbestos/> (last visited May 1, 2007).

<sup>36</sup> K. McKinney et al., *supra* note 20, at 454.

<sup>37</sup> J.H. Offenberger et al., *Persistent Organic Pollutants in the Dust That Settled across Lower Manhattan after September 11, 2001*, 37 ENVTL. SCI. & TECH. 502, 507 (2003).

<sup>38</sup> Joachim D. Pleil et al., *Air Levels of Carcinogenic Polycyclic Aromatic Hydrocarbons After the World Trade Center Disaster*, 101 PRO. OF THE NAT'L ACAD. OF SCI. 11685, 11686 (2004).

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range, but not at an excessive level.<sup>39</sup>

Finally, much more is known about the particulate—the solid phase—component of the WTC exposure than is known about the gaseous component, particularly during the first 12–24 hours of the disaster when testing for gases was not conducted. Volatility and lack of persistence in the environment prevented anyone from characterizing exposures to inorganic and organic combustion products that would have resulted from the intense temperatures, vaporization of the thousands of liters of jet fuel, and large amounts of polyvinyl carbon (plastic) inside the towers and which were all gaseous components of the initial plume.<sup>40</sup>

*B. Personal Sampling and Respirator Use*

Significant efforts were made by numerous public and private entities beginning from September 11, 2001 and into 2002 to promote the use of respiratory protection equipment or respirators by responders. The FDNY, the NYPD, the Port Authority, the U.S. Occupational Safety and Health Administration (“OSHA”), the National Institute for Occupational Safety and Health (“NIOSH”), the New York State Department of Labor (Division of Safety and Health), WTC contractors and subcontractors, and other parties provided respirator fit testing and actively encouraged responders to wear their assigned respirators.<sup>41</sup> However, the use of respirators in the first weeks after September 11<sup>th</sup> has generally been judged as less than optimal.<sup>42</sup> For instance, the FDNY has noted that the frequency of respirator use among firefighters immediately after the attacks was in the 20 percent range but rose to 60 percent after October 2001.<sup>43</sup>

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<sup>39</sup> Liroy et al., *Dust/Smoke Aerosol after Collapse of the WTC*, *supra* note 22, at 712.

<sup>40</sup> Landrigan et al., *supra* note 3, at 731.

<sup>41</sup> Landrigan et al., *supra* note 3, at 732.

<sup>42</sup> Landrigan et al., *supra* note 3, at 732.

<sup>43</sup> David Prezant, M.D., Chief Medical Officer, Office of Medical Affairs, Fire Department of the City of New York (FDNY) and Co-Director World Trade Center Medical Monitoring and Treatment Program, Presentation at Fire Department of New York City: Fire Department of New York City Rescue

Sub-optimal use of respiratory protection equipment during the initial stages of the rescue operation may have occurred for several different reasons.<sup>44</sup> First, a supplied air respirator, like a self-contained breathing apparatus (“SCBA”) which firefighters wear for routine rescue activities, is designed to be worn for only short periods of time, but the rescue efforts lasted much longer than any previous rescue operation.<sup>45</sup> Second, the weight and bulkiness of a SCBA made work in the cramped debris spaces at Ground Zero quite difficult.<sup>46</sup> Third, the filters of non-SCBA type respirators used during rescue and recovery at Ground Zero, like air purifying respirators (“APRs”), quickly became clogged with dust after just a few minutes in the highly dusty environment of Ground Zero, making them impossible to breathe through.<sup>47</sup> Fourth, APR filters were not—at that time—interchangeable between respirators made by different manufacturers, which created difficulties in replacing clogged filters.<sup>48</sup> Ensuring proper respirator use is a challenge during large scale disasters and even when respirators are available, their effectiveness may be less than optimal. For instance, a study of respirator use in response to Hurricane Katrina also found sub-optimal respirator use.<sup>49</sup>

There are only a few studies of personal breathing zone sampling in responders and none of residents or other exposed populations. In one study conducted from September 18 through October 4, 2001, over 1,200 bulk and air samples were collected and analyzed for asbestos, carbon monoxide, diesel exhaust, hydrogen sulfide, inorganic acids, mercury and other metals, PAHs,

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Workers, October 2001 to October 2002 (Dec. 18, 2006) (presentation on file with the author).

<sup>44</sup> BRIAN A. JACKSON ET AL., PROTECTING EMERGENCY RESPONDERS: LESSON LEARNED FROM TERRORIST ATTACKS 22–24 (2002), *available at* [http://rand.org/pubs/conf\\_proceedings/CF176/](http://rand.org/pubs/conf_proceedings/CF176/).

<sup>45</sup> *Id.*

<sup>46</sup> *Id.*

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> Kristen J. Cummings et al., *Respirator Donning in Post-hurricane New Orleans*, 13 EMERGING INFECTIOUS DISEASES 700 (2007), *available at* <http://www.cdc.gov/eid/content/13/5/06-1490.htm>.

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respirable crystalline silica and VOCs.<sup>50</sup> Exposures did not exceed published NIOSH Recommended Exposure Limits (“RELs”) or OSHA Permissible Exposure Limits (“PELs”), except for one worker overexposed to cadmium and another to carbon monoxide.<sup>51</sup> However, widespread and continuous sampling of responders working at Ground Zero, especially those actually working at the center of the Pile, was not conducted.

Therefore, precise quantitative characterization of personal exposures is not possible for individual members of WTC-exposed populations based on the type of data collected at the time of the event and immediately afterwards. However, more complete exposure assessment is only available during controlled laboratory experiments, or planned industrial operations, rather than during real world catastrophes like the WTC disaster. Surrogates such as time of arrival at the WTC site, time exposed to the plume, distance from Ground Zero, and specification of activities involving exposure to debris, dust, and smoke could be used as semi-quantitative determinants of exposure.<sup>52</sup> Future studies that aim to determine causal inferences between WTC exposures and specific health effects will undoubtedly have to use semi-quantitative, or even qualitative, surrogates to create plausible exposure categories that can clearly distinguish between varying levels of exposure among an exposed population (i.e., low, moderate and high) and an unexposed group.

*C. Mental Health Exposures*

In addition to exposures to the toxic substances described above, those who witnessed the traumatic events associated with the WTC disaster were exposed to a host of mental health stressors.<sup>53</sup> Exposures which may have caused mental stress

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<sup>50</sup> Wallingford & Snyder, *supra* note 22, at 249.

<sup>51</sup> Wallingford & Snyder, *supra* note 22, at 250.

<sup>52</sup> Liroy et al., *WTC Aftermath and Its Effects on Health*, *supra* note 14, at 6880.

<sup>53</sup> Sandro Galea et al., *Psychological Sequelae on the September 11 Terrorist Attacks in New York City*, 346 NEW ENG. J. MED. 982 (2002).

include seeing the hijacked aircraft fly into the WTC towers, watching building occupants jump to their death from the upper floors of the towers, seeing and hearing the towers collapse, helping severely injured victims, and recovering human remains from the rubble of Ground Zero.<sup>54</sup>

A study of mental health effects performed just two weeks following the WTC attacks found that 22 percent of WTC responders had acute post-traumatic stress disorder (“PTSD”).<sup>55</sup> Studies conducted five and eight weeks after the WTC terrorist attacks found that mental health stressors arising from the disaster caused depression and PTSD in 7.5 percent and 9.7 percent of Manhattan residents, respectively,<sup>56</sup> and one study performed one year following the attacks found that 13 percent of responders had PTSD symptoms.<sup>57</sup>

Although it is important to determine for how long mental health effects like PTSD persist after a traumatic event, there is a dearth of knowledge concerning the persistence of post-disaster PTSD.<sup>58</sup> Nevertheless, information about the persistence of PTSD in WTC responders is emerging. Interviews conducted two to three years following the WTC attacks show that the overall prevalence of PTSD among WTC responders was 12.4 percent, with the greatest risk of developing PTSD found in those responders who were not professional rescue personnel, e.g., construction and sanitation workers and unaffiliated volunteers.<sup>59</sup>

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<sup>54</sup> *Id.*

<sup>55</sup> Carol S. Fullerton et al., *Perceived Safety in Disaster Workers Following 9/11*, 194 J. OF NERVOUS AND MENTAL DISEASE 61, 63 (2006).

<sup>56</sup> Galea, *supra* note 53, at 983.

<sup>57</sup> R.P. Smith et al., *Mental health status of World Trade Center rescue and recovery workers and volunteers—New York City, July 2002–Aug 2004*, 53 MORBIDITY AND MORTALITY WKLY. REP. 812–15 (2004).

<sup>58</sup> Sandro Galea et al., *The Epidemiology of Post-Traumatic Stress Disorder after Disasters*, 27 EPIDEMIOLOGIC REVIEWS 78, 85 (2005).

<sup>59</sup> Megan A. Perrin et al., *Differences in PTSD Prevalence and Associated Risk Factors Among World Trade Center Disaster Rescue and Recovery Workers*, 164 AM. J. OF PSYCHIATRY 1385, 1385–94 (2007).

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Soon after the disaster, the New York City Department of Health and Mental Hygiene began a registry of individuals at risk for possible near and long term physical and mental health effects from the disaster—the World Trade Center Health Registry (“the Registry”).<sup>60</sup>

A registry is a traditional public health measure and its purposes “can be summarized as collating information collected from defined groups over time, which may be used in the prevention or treatment of disease, the provision of after-care, the monitoring of changing patterns of disease and medical care, and the evaluation and planning of services.”<sup>61</sup> The first step in establishing a registry designed to keep track of those persons at risk of harm from a disaster is to determine the number of persons exposed to the event.<sup>62</sup> In the case of the WTC disaster, the exact number of people exposed to the debris, dust, and smoke from the WTC disaster is unknown.

The most complete estimate of significantly exposed WTC populations has been performed by the Registry in conjunction with the Research Triangle Institute and the Federal Agency for Toxic Substances and Disease Registry in the U.S. Department of Health and Human Services.<sup>63</sup> The Registry’s estimate of the number of individuals in the various WTC-affected populations was done to provide a denominator for its study of health effects in WTC-exposed persons (i.e., the numerator for calculation of incidence rates of new disease or mortality).<sup>64</sup>

The Registry defined geographic areas of maximal exposure for

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<sup>60</sup> World Trade Center Health Registry, *available at* <http://www.nyc.gov/html/doh/html/wtc/index.html> (last visited on Nov. 9, 2007). *See* discussion *infra* Part II.E.

<sup>61</sup> J.M. Weddell, *Registers and Registries: A Review*, 2 INT’L J. OF EPIDEMIOLOGY 221, 226 (1973).

<sup>62</sup> *Id.*

<sup>63</sup> JOSEPH MURPHY, WORLD TRADE CENTER HEALTH REGISTRY—EXPLANATION AND CALCULATION OF OUTCOME RATES (2006), *available at* <http://www.nyc.gov/html/doh/downloads/pdf/wtc/wtc-outcome-explanation.pdf>.

<sup>64</sup> *Id.*

each of the major populations exposed to the WTC disaster, i.e., responders (rescue and recovery personnel, cleanup workers, and volunteers), Lower Manhattan residents, building occupants and people in transit, and Lower Manhattan school children and staff. The Registry then estimated the number of persons in each major population group by defined geographic area.<sup>65</sup>

For responders, the Registry defined the WTC site at which they were exposed as a geographic area bounded by Chambers Street on the North, Broadway on the East, Rector Street on the South and the Hudson River on the West (and included the Staten Island Landfill).<sup>66</sup> For residents, building occupants and people in transit, and school children and staff, the Registry used the geographic area of Manhattan south of Chambers Street from the East River to the Hudson River.<sup>67</sup> Using these geographic parameters, the Registry estimated a total population-denominator of 526,269 exposed persons.<sup>68</sup>

Within this total estimated population, the Registry defined four major sub-groups: (1) rescue and recovery workers (91,469); (2) residents living in the area of Lower Manhattan south of Canal Street (57,511); (3) building occupants and those in transit (62,092); and (4) students and school staff (K-12) present in the area of Lower Manhattan south of Canal Street (15,197).<sup>69</sup>

The category of rescue and recovery workers includes people who worked at least one shift between September 11, 2001 and June 30, 2002 at the WTC site, on debris transport barges, or at the Staten Island Landfill.<sup>70</sup> The 91,469 estimated responders and volunteers can be further divided into 8 categories: (1) 26,659 persons from NYC government agencies; (2) 26,480 persons from volunteer organizations; (3) 20,397 persons from rescue/recovery organizations; (4) 8,887 persons from New York State agencies; (5)

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<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> *Id.*

<sup>68</sup> *Id.* at 15.

<sup>69</sup> JOSEPH MURPHY, WORLD TRADE CENTER HEALTH REGISTRY—EXPLANATION AND CALCULATION OF OUTCOME RATES (2006), *available at* <http://www.nyc.gov/html/doh/downloads/pdf/wtc/wtc-outcome-explanation.pdf>.

<sup>70</sup> *Id.* at 1.

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5,122 persons from federal agencies; (6) 3,499 persons from Federal Emergency Management Administration (“FEMA”) urban search and rescue teams and disaster medical assistance teams; (7) 400 persons from the New York-New Jersey Port Authority; and (8) 15 non-overlapping labor union members.<sup>71</sup>

The lack of an exact list of WTC responders serves as one of the most important lessons from the WTC disaster. It is vitally important to keep accurate, contemporaneous records that identify every individual who is a part of an emergency response effort. Accurate and contemporaneous records of each responder enhance the effectiveness of post-deployment physical and mental health monitoring and treatment.

## II. HEALTH EFFECTS

The WTC terrorist attacks created an unprecedented urban environmental disaster and exposed emergency responders, volunteers, nearby residents, office workers, students, school staff, and others to a complex mix of chemical and physical hazards as well as psychological traumatogens.

### A. FDNY Responders

Nearly the entire FDNY workforce of 11,336 firefighters participated in the WTC disaster response.<sup>72</sup> Physicians from FDNY were present at the WTC site immediately before and after the collapse.<sup>73</sup> They saw first-hand the immediate health effects:

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<sup>71</sup> Joseph Murphy et al., *Measuring and Maximizing Coverage in the World Trade Center Health Registry*, 26 STAT. IN MED. 1688 (2007), available at <http://www.nyc.gov/html/doh/downloads/pdf/wtc/wtc-article20070207.pdf>; MELISSA DOLAN ET AL., WORLD TRADE CENTER HEALTH REGISTRY: WORLD TRADE CENTER HEALTH REGISTRY—SAMPLING BUILDING AND DENOMINATOR ESTIMATION (2006), available at <http://www.nyc.gov/html/doh/downloads/pdf/wtc/wtc-buildingdenominator.pdf>.

<sup>72</sup> Prezant et al., *Cough and Bronchial Responsiveness*, *supra* note 2, at 806.

<sup>73</sup> Interview with David Prezant, M.D., Chief Medical Officer, Office of Medical Affairs, Fire Department of the City of New York (FDNY) and Co-



orthopedic injuries from falling debris, eye and skin irritation, nasal congestion, and difficulty breathing and coughing (dubbed “World Trade Center Cough”).<sup>74</sup>

In the first 24 hours after the WTC attacks, 240 FDNY personnel sought emergency medical treatment.<sup>75</sup> Of these, 28 were hospitalized and 50 received treatment for acute respiratory symptoms caused by inhalation of airborne smoke and dust.<sup>76</sup> Several firefighters had respiratory problems that started within hours of the disaster, and they were treated for serious, newly onset lung diseases.<sup>77</sup> Others had respiratory symptoms that arose weeks or months after their work at Ground Zero began.<sup>78</sup> Due to these early symptoms, FDNY quickly initiated medical screenings of their members who responded to the WTC disaster and began reporting their findings in the peer-reviewed medical literature.<sup>79</sup>

Three weeks following September 11<sup>th</sup>, FDNY initiated a study examining 370 firefighters’ blood and urine (321 of these firefighters having had direct exposure to the WTC site) to learn whether any of their personnel had internally absorbed any of 110 potentially fire-related chemicals as a result of being exposed to the WTC site.<sup>80</sup> Values were generally low compared to reference values, but “unanticipated increases in urinary antimony, serum

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Director World Trade Center Medical Monitoring and Treatment Programs, in Brooklyn, N.Y. (Dec. 18, 2006) [hereinafter Interview with David Prezant].

<sup>74</sup> *Id.* World Trade Center cough was defined by FDNY Medical Bureau “as a persistent cough that developed in a firefighter after exposure to the site and that was accompanied by respiratory symptoms severe enough for FDNY physicians to place the worker on medical leave for at least four consecutive weeks.” See Prezant et al., *Cough and Bronchial Responsiveness*, *supra* note 2, at 806.

<sup>75</sup> Interview with David Prezant, *supra* note 73.

<sup>76</sup> Interview with David Prezant, *supra* note 73.

<sup>77</sup> William Rom et al., *Acute Eosinophilic Pneumonia in a New York City Firefighter Exposed to World Trade Center Dust*, 166 AM. J. OF RESPIRATORY CRITICAL CARE MED. 797, 799 (2002).

<sup>78</sup> Interview with David Prezant, *supra* note 73.

<sup>79</sup> Interview with David Prezant, *supra* note 73.

<sup>80</sup> Philip Edelman et al., *Biomonitoring of Chemical Exposures among New York City Firefighters Responding to the World Trade Center Fire and Collapse*, 111 ENVTL. HEALTH PERSP. 1906, 1907 (2003).

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heptachlorobenzodioxin and serum heptachlorobenzofuran” were seen.<sup>81</sup>

Approximately one month following September 11, 2001, 332 firefighters in whom severe cough had developed were evaluated for the presence of bronchial hyperreactivity. “[B]ronchial hyperreactivity . . . was found in 23 percent of firefighters with a high level of exposure (77 subjects) and in 8 percent of those with a moderate level of exposure (26 subjects).”<sup>82</sup>

Also in October 2001, 362 firefighters underwent spirometric lung function tests.<sup>83</sup> The results of these tests were compared to pre-WTC-exposure values obtained during their annual FDNY physical examinations.<sup>84</sup> Reductions in lung functions were greater than the expected annual reductions measured in a reference group of FDNY firefighters prior to September 11, 2001.<sup>85</sup> Additionally, there was a 60 percent increased risk of a decline of greater than 450 milliliters in forced vital capacity in one second (FEV<sub>1</sub>) for those personnel arriving at the WTC site during the first 48 hours compared with a referent group.<sup>86</sup>

Ten months after September 11, 2001, FDNY did a study comparing sputum<sup>87</sup> in WTC-exposed firefighters with a control group.<sup>88</sup> Findings from exposed firefighters showed an influx of inflammatory cells that increased with exposure intensity and the

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<sup>81</sup> *Id.* at 1908–09.

<sup>82</sup> Prezant et al., *supra* note 2, *Cough and Bronchial Responsiveness*, at 809.

<sup>83</sup> Debra M. Feldman et al., *Symptoms, Respirator Use and Pulmonary Function Changes Among New York City Firefighters Responding to the World Trade Center Disaster*, 125 CHEST 1256 (2004).

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> *Id.* at 1260–61.

<sup>87</sup> Sputum is a type of respiratory tract secretion which is distinguished from saliva by the presence of bronchial epithelial cells and alveolar macrophages (cells from deep within the lung). See DENNIS L. KASPER ET AL., HARRISON’S MANUAL OF MEDICINE: A DISTILLATION OF CLINICAL MATERIAL FROM HARRISON’S PRINCIPLES OF INTERNAL MEDICINE 666 (16th ed. 2005).

<sup>88</sup> Elizabeth M. Fireman et al., *Induced Sputum Assessment in New York City Firefighters Exposed to World Trade Center Dust*, 112 ENVTL. HEALTH PERSP. 1564, 1565 (2004).

presence of debris, dust, and smoke products generated by the WTC collapse.<sup>89</sup> Based on these initial findings, and to better define the respiratory consequences of WTC exposures, FDNY analyzed longitudinal lung function from 1997 through 2002 in the entire FDNY WTC medical screening cohort of 12,079 individuals.<sup>90</sup> Results showed that WTC-exposed firefighters experienced a substantial reduction (372 milliliters) in average FEV<sub>1</sub> during a single year after September 11, 2001.<sup>91</sup> The 372 milliliter loss equaled 12 years of age-related decline and the loss in lung function correlated linearly with exposure intensity as assessed by initial arrival time.<sup>92</sup>

Recently, FDNY compared the incidence of firefighters who had a “sarcoid-like” granulomatous pulmonary disease in the 15 years before September 11, 2001 with cases of the same condition in the five years after September 11, 2001.<sup>93</sup> In the five years following September 11th, pathologic evidence consistent with new onset sarcoid was noted in 26 firefighters (13 cases were noted in the first year after September 11, 2001) for an incidence rate of 86 cases per 100,000 persons and 13 cases were identified in the remaining four years for an incidence rate of 22 per 100,000 persons.<sup>94</sup> An incidence rate of only 15 cases per 100,000 persons was noted during the 15 years prior to September 11, 2001.<sup>95</sup>

#### *B. Non-Firefighter Responders and Volunteers*

After receiving reports in late 2001 from physicians seeing symptomatic WTC responders other than FDNY members, a

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<sup>89</sup> *Id.* at 1569.

<sup>90</sup> Gisela I. Banauch et al., *Pulmonary Function After Exposure to the World Trade Center Collapse in the New York City Fire Department*, 174 AM. J. OF RESPIRATORY AND CRITICAL CARE MED. 312 (2006).

<sup>91</sup> *Id.* at 315.

<sup>92</sup> *Id.*

<sup>93</sup> Gabriel Izbicki et al., *World Trade Center “Sarcoid Like” Granulomatous Pulmonary Disease in NYC Fire Department Rescue Workers*, 131 CHEST 1414 (2007).

<sup>94</sup> *Id.* at 1416.

<sup>95</sup> *Id.*

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consortium of medical centers in the New York City-New Jersey Metropolitan Area—the “Mt. Sinai Consortium”—received federal funding to provide one-time medical screening for all non-firefighter WTC rescue, recovery, site clean-up workers and volunteers, such as police officers, private sector emergency medical services workers, construction workers, site cleanup workers and others not covered by the FDNY medical screening program.<sup>96</sup>

Preliminary reports of physical<sup>97</sup> and mental<sup>98</sup> health findings were published in late 2004 on the first 1,000 responders screened by the Mt. Sinai Consortium. These reports indicated a high prevalence of physical and mental health problems in responders and volunteers, including 60 percent with respiratory symptoms,<sup>99</sup> 33 percent with abnormal lung function,<sup>100</sup> and 20 percent with PTSD.<sup>101</sup>

In September of 2006, the Mt. Sinai Consortium reported in detail on the physical health effects experienced by medically screened responders and volunteers.<sup>102</sup> Of 9,442 responders and

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<sup>96</sup> Consortium members are Mt. Sinai School of Medicine, Queens College, State University of New York (SUNY) at Stonybrook, University of Medicine and Dentistry of New Jersey/Robert Wood Johnson Medical School and Bellevue Hospital/New York University School of Medicine. These Consortium members provide: (1) periodic physical and mental health assessment designed to identify short and longer term health effects that are WTC-related; (2) clinical data collection, analysis and reporting to ensure that all care provided is evidence-based; (3) scientifically-guided treatment for WTC-related diseases; (4) translation services in over 20 languages; and (5) assistance with filing workers’ compensation insurance claims, health insurance claims and pension and disability claims.

<sup>97</sup> Steven Levin et al., *Physical Health Status of World Trade Center Rescue and Recovery Workers and Volunteers—New York City, July 2002–August 2004*, 53 MORBIDITY AND MORTALITY WKLY. REP. 807 (2004).

<sup>98</sup> R. P. Smith et al., *Mental Health Status of World Trade Center Rescue and Recovery Workers and Volunteers—New York City, July 2002–August 2004*, 53 MORBIDITY AND MORTALITY WKLY. REP. 812 (2004).

<sup>99</sup> Levin et al., *supra* note 97, at 809.

<sup>100</sup> Levin et al., *supra* note 97, at 809.

<sup>101</sup> Smith et al., *supra* note 98, at 813.

<sup>102</sup> Robin Herbert et al., *The World Trade Center Disaster and the Health of Workers: Five-Year Assessment of a Unique Medical Screening Program*, 114 ENVTL. HEALTH PERSP. 1853 (2006).

volunteers seen from 2002 through 2004, 69 percent reported new or worsened respiratory symptoms while performing rescue, recovery, and cleanup work, and 59 percent reported that the same symptoms persisted until the time of examination one to three years after exposure.<sup>103</sup> Among those without any symptoms before beginning their WTC response work, 61 percent developed one or more respiratory symptoms while performing WTC work.<sup>104</sup>

Most importantly, in addition to the subjective symptoms reported during medical screening, the study also reported that 28 percent had objective measures of abnormal lung function.<sup>105</sup> Among nonsmokers, 27 percent had abnormal lung function compared to only 13 percent in the U.S. population as a whole.<sup>106</sup> One measure of lung function in nonsmokers—the forced vital capacity (“FVC”)—was reduced in screened responders.<sup>107</sup> Low FVC was found in 20 percent of responders with abnormal lung function compared to only 4 percent seen in the general U.S. population.<sup>108</sup> Both increased symptoms and abnormal lung function were associated with early arrival at Ground Zero.<sup>109</sup>

Although there are several reasons unrelated to WTC dust exposure explaining why a person’s FVC can be reduced, similar lung function changes have also been reported by other researchers in FDNY responders, thereby providing evidence of biologic consistency in similarly exposed populations.<sup>110</sup> Such consistency in medical findings from studies involving different exposed populations of responders contributes to the developing view that WTC exposures are associated with serious, long-term lung conditions.

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<sup>103</sup> *Id.* at 1855.

<sup>104</sup> *Id.* at 1856.

<sup>105</sup> *Id.*

<sup>106</sup> *Id.*

<sup>107</sup> *Id.*

<sup>108</sup> Robin Herbert et al., *The World Trade Center Disaster and the Health of Workers: Five-Year Assessment of a Unique Medical Screening Program*, 114 ENVTL. HEALTH PERSP. 1853 (2006).

<sup>109</sup> *Id.*

<sup>110</sup> *See, e.g.,* Banauch et al., *supra* note 90.

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Adding to the evidence for WTC-associated respiratory effects in the responder populations is a study from the WTC Health Registry<sup>111</sup> published in 2007.<sup>112</sup> The study analyzed 2003-2004 interview data from the Registry for responders who did not have asthma prior to September 11, 2001 and estimated the risk of newly-diagnosed asthma and its association with WTC work history, including use of a mask or a respirator.<sup>113</sup> The study indicated a relatively high rate of self-reported newly-diagnosed asthma, i.e., 927 out of 25,748 responders, or 3.6 percent, reported new asthma. Earlier arrival and longer duration of work at the WTC site were significant risk factors.<sup>114</sup>

*C. Responder Fatalities*

In 2006, the death of police detective James Zadroga, Jr. with lung fibrosis at a young age (34 years) was reported in the New York City print media and received much attention from the WTC responder community as well as the general public.<sup>115</sup> After the Zadroga death, the media reported several other responder deaths from various types of lung diseases and cancers.<sup>116</sup> A number of these deaths included relatively young, previously healthy individuals, thereby raising concerns that WTC exposures caused their premature deaths.<sup>117</sup> However, from a scientific perspective, it is not clear that the reported responders' cancers and lung

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<sup>111</sup> See *infra* Part II.E.

<sup>112</sup> Katherine Wheeler et al., *Asthma Diagnosed after September 11, 2001 among Rescue and Recovery Workers: Findings from the World Trade Center Registry*, 115 ENVTL. HEALTH PERSP. 1584 (2007), available at <http://www.ehponline.org/members/2007/10248/10248.pdf>.

<sup>113</sup> *Id.*

<sup>114</sup> *Id.*

<sup>115</sup> *9-11 In Fight of Their Lives*, N.Y. DAILY NEWS, Apr. 16, 2006, available at [http://www.nydailynews.com/news/2006/04/16/2006-04-16\\_fight\\_for\\_their\\_lives.html](http://www.nydailynews.com/news/2006/04/16/2006-04-16_fight_for_their_lives.html).

<sup>116</sup> *Death Sentence*, N.Y. DAILY NEWS, July 24, 2006, available at [http://www.nydailynews.com/news/2006/07/24/2006-07-24\\_death\\_sentence.html](http://www.nydailynews.com/news/2006/07/24/2006-07-24_death_sentence.html).

<sup>117</sup> *Id.*

diseases are causally related or just temporally related to WTC exposures. Nevertheless, the similar pattern of conditions leading to their deaths raises a suspicion that the WTC exposures that they shared may have caused their deaths.

To further investigate responder fatalities, the New York State Department of Health launched a WTC Fatality Investigation Program in December of 2006 to find common patterns among all responder and volunteer deaths.<sup>118</sup> A systematic surveillance system approach is used to collect information on any person who volunteered, worked, or responded at the WTC disaster site (including Ground Zero and the surrounding area, on the debris transport barges, or at the Staten Island Landfill) for at least one 8 hour shift between September 11, 2001 and June 30, 2002 and who died after September 11, 2001.<sup>119</sup> The Fatality Investigation Program will provide information to improve the medical community's understanding of the deaths occurring in responders and to improve the medical treatment of responders.<sup>120</sup>

*D. Residents, Commercial Building Occupants, People in Transit, School Children, and Staff*

Lower Manhattan is home to many thousands of residents. People living in public housing, apartments, co-operatives and condominiums near the WTC site experienced an acute and intense indoor exposure to dust on September 11, 2001.<sup>121</sup> For several months afterwards, they experienced persistent exposure to dust re-suspended by recovery operations and the activities of daily living, as well as exposure to smoke from the fires at Ground Zero.<sup>122</sup> Dust and smoke gained entrance to residences through

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<sup>118</sup> New York State Department of Health, WTC Responders Fatality Investigation Program, <http://www.dos.state.ny.us/fire/WTCpercent20Info/WTCRespondersFatalityInvestigationProgram.doc.pdf> (last visited May 1, 2007). Cases can be reported to [WTCFatality@health.state.ny.us](mailto:WTCFatality@health.state.ny.us) or to (518) 402-7900 or (866) 807-2130.

<sup>119</sup> *Id.*

<sup>120</sup> *Id.*

<sup>121</sup> Landrigan, *supra* note 3, at A515; Claudio, *supra* note 13, at A531.

<sup>122</sup> Landrigan, *supra* note 3, at A515; Claudio, *supra* note 13, at A531.

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windows, building cracks, and ventilation systems.<sup>123</sup>

Soon after September 11, 2001, researchers at Bellevue Hospital, the New York University School of Medicine, and the New York State Department of Health initiated surveys to determine if there was an increase in the rate of new respiratory symptoms in Lower Manhattan residents.<sup>124</sup> Within 8 to 16 months after September 11, 2001, residents within one mile of Ground Zero were surveyed about whether they had any new onset respiratory symptoms.<sup>125</sup> The analysis of nearly 3,000 residents of Lower Manhattan revealed that 55.8 percent (compared to 20.1 percent among residents living five miles away from Ground Zero in Manhattan) reported new onset respiratory symptoms, such as cough, wheezing, or shortness of breath at any time following September 11, 2001.<sup>126</sup> These respiratory symptoms resulted in an almost two-fold increase in unplanned medical visits and use of asthma medication in persons living near Ground Zero compared with others.<sup>127</sup> The study also addressed whether these symptoms were resolved right after the WTC attacks or if they persisted by asking whether symptoms were still present in the month immediately preceding completion of the survey (8 to 16 months after September 11<sup>th</sup>) with a frequency of at least twice per week.<sup>128</sup> Newly onset lower respiratory symptoms were present in 27 percent of exposed residents versus 8 percent of controls—a threefold increase in persistent respiratory symptoms.<sup>129</sup>

In addition to these early self-reports of symptoms in a non-

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<sup>123</sup> Landrigan, *supra* note 3, at A515; Claudio, *supra* note 13, at A531.

<sup>124</sup> Joan Reibman et al., *The World Trade Center Residents' Respiratory Health Study: New-Onset Respiratory Symptoms and Pulmonary Function*, 113 ENVTL. HEALTH PERSP. 406 (2005); Shao Lin et al., *Upper Respiratory Symptoms and Other Health Effects Among Residents Living Near the World Trade Center Site After September 11, 2001*, 162 AM. J. OF EPIDEMIOLOGY 499 (2005).

<sup>125</sup> Reibman et al., *supra* note 124, at 408.

<sup>126</sup> Reibman et al., *supra* note 124, at 409, tbl. 2.

<sup>127</sup> Lin et al., *supra* note 124, at 501.

<sup>128</sup> Lin et al., *supra* note 124, at 501.

<sup>129</sup> Lin et al., *supra* note 124, at 501.



responder population, there is also clinical evidence of illness in residents and others. The WTC Environmental Health Center at Bellevue Hospital/New York University School of Medicine has medically examined over 1,000 residents, commercial building occupants, and cleanup workers.<sup>130</sup> Although many of these residents and workers were perfectly healthy before the WTC exposure, the Bellevue Center has noted that many of the same patients now manifest persistent, difficult-to-treat, respiratory conditions, such as reactive airways disease and asthma, while “others have a process in their lungs that we do not fully understand and may consist of a granulomatous disease of the lung like sarcoid, or fibrosis, which is scarring in the lungs.”<sup>131</sup> These survey and clinical findings in residents are remarkably consistent with the findings seen in studies of firefighters and other rescue, recovery, and cleanup responders.

#### *E. World Trade Center Health Registry*

The Registry is the largest effort in the United States to monitor the physical and mental health of populations who were affected by the WTC terrorist attacks.<sup>132</sup> Enrollment eligibility includes: (1) people who were south of Chambers Street on September 11, 2001 whether in a building, on the street, or on the subway; (2) people involved in rescue, recovery, clean up, or other activities at the WTC site and/or WTC Recovery Operations on Staten Island any time between September 11, 2001 and June 30,

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<sup>130</sup> Interview with Joan Reibman, M.D., Medical Director, Bellevue/New York University School of Medicine World Trade Center Health Center, New York, N.Y. (February 4, 2007).

<sup>131</sup> *The Long-Term Health Impacts from September 11: A Review of Treatment, Diagnosis and Monitoring Efforts*, S. Health Educ. Labor and Pensions (HELP), 110th Cong. (2007) (statement of Joan Reibman, M.D., Bellevue Hospital and New York University School of Medicine), available at [http://help.senate.gov/Hearings/2007\\_03\\_21.html](http://help.senate.gov/Hearings/2007_03_21.html).

<sup>132</sup> Press Release, New York City Department of Health and Mental Hygiene, World Trade Center Health Registry Surpasses 40,000 Enrollees; It is Now the Largest Registry of Its Kind in U.S. History (June 17, 2004), available at [http://home2.nyc.gov/html/doh/html/press\\_archive04/pr071-0617.shtml](http://home2.nyc.gov/html/doh/html/press_archive04/pr071-0617.shtml).

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2002; (3) students and staff enrolled in schools (pre-kindergarten to 12<sup>th</sup> grade) or day care centers south of Canal Street on September 11, 2001; and (4) people who were living south of Canal Street on September 11, 2001.<sup>133</sup> Estimates of the true eligible population indicate that over 400,000 persons were eligible for a baseline health survey questionnaire by the Registry.<sup>134</sup> The Registry was able to recruit just over 70,000 participants before it closed to new registrants in 2004.<sup>135</sup>

Like other registries examining risk, the Registry serves as a scientific platform to explore evidence of excess mortality in populations affected by the WTC disaster as well as the occurrence of specific physical and mental health effects in WTC-affected populations over time.<sup>136</sup> The Registry also serves as an information resource for all WTC-affected populations and provides clinical guidelines for physicians treating individuals exposed to the WTC disaster.<sup>137</sup>

The findings reported in early symptom surveys of Lower Manhattan residents performed within 16 months of the WTC attacks were corroborated by the initial WTC Health Registry's survey of nearly 9,000 survivors of collapsed or damaged buildings done 24 to 36 months after the attacks.<sup>138</sup> These baseline survey findings, published in 2006, concluded that "two or three years after September 11<sup>th</sup>, survivors of buildings that collapsed or that were damaged as a result of the WTC attacks reported substantial physical and mental health problems" and recommended that long

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<sup>133</sup> World Trade Center Health Registry, About the Registry, <http://home2.nyc.gov/html/doh/html/wtc/about.html> (last visited Nov. 9, 2007).

<sup>134</sup> Murphy et al., *supra* note 71, at 1688.

<sup>135</sup> Murphy et al., *supra* note 71, at 1688.

<sup>136</sup> Murphy et al., *supra* note 71, at 1688.

<sup>137</sup> The New York City Department of Health and Mental Hygiene, *Clinical Guidelines for Adults Exposed to the World Trade Center Disaster*, 25 CITY HEALTH INFO. 47, 47 (2006), available at <http://www.nyc.gov/html/doh/downloads/pdf/chi/chi25-7.pdf>.

<sup>138</sup> Robert M. Brackbill et al., *Surveillance for World Trade Center Disaster Health Effects Among Survivors of Collapsed and Damaged Buildings*, 55 MORBIDITY & MORTALITY WKLY. REP. 1, 1 (2006).

term follow-up of residents, building occupants, and others enrolled in the Registry should be maintained, particularly those persons most exposed to the dust cloud.<sup>139</sup>

In 2007, the Registry launched a second or follow up survey of enrollees to determine whether respiratory and mental health symptoms still persist five to six years following the WTC collapse.<sup>140</sup>

#### *F. Long Latency Health Effects*

Several of the toxic substances that represent WTC exposures are known to cause various types of cancer and lung scarring conditions such as asbestosis.<sup>141</sup> For some types of cancer and asbestosis, the time between exposure and the occurrence of symptoms—the latency period—can be quite long. For instance, the onset of mesothelioma—a type of lung cancer caused by asbestos—can be 20 to 40 years following exposure.<sup>142</sup> Given the short length of time since the WTC disaster, traditional medical theory would not predict the occurrence of most cancers in WTC responders and other exposed populations during the early years following exposure. Even though there are no scientific reports affirmatively linking WTC exposures to cancer, a number of responders have unsurprisingly developed cancer subsequent to September 11, 2001. What is uncertain from a scientific perspective is whether the association between the WTC exposure and the subsequent occurrence of cancer is merely temporal or also a causal relationship.

What also complicates the investigation into cancer as a causal outcome of WTC exposures is that cancer is a relatively common disease and cause of death in the United States; it has been the second-leading cause of disease resulting in death since 1960.<sup>143</sup>

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<sup>139</sup> *Id.*

<sup>140</sup> WTC Health Registry 2006–07 Follow-Up Survey, <http://www.nyc.gov/html/doh/html/wtc/survey.html> (last visited on May 1, 2007).

<sup>141</sup> Philip Landrigan, *Health Consequences of the 11 September 2001 Attacks*, 109 ENVTL. HEALTH PERSP. A514 (2001).

<sup>142</sup> *Id.*

<sup>143</sup> Infoplease.com, Deaths by Major Causes, 1960–2004, <http://www.infoplease.com>.

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The same can be said for any subset of the American population.<sup>144</sup> For instance, cancer occurs frequently among NYC residents, and the average rate of cancer increases with age.<sup>145</sup> For males, the rate increases fifteen-fold—from a rate of 96.3 cases per 100,000 New York male residents aged 35 to 39 years—to a rate of 1500.1 cases per 100,000 New York male residents aged 60-64 years.<sup>146</sup> Most responders at the time of the WTC disaster were probably more than 35 years of age and most likely in the 35 to 64 age range.<sup>147</sup> Using the Registry's estimate of approximately 91,000 WTC responders, several cases of cancer unrelated to WTC exposure would be expected to develop in the responder population each year.

The same picture can be seen with death or mortality from cancer. For instance, among the leading causes of death in NYC residents for age groups in which most WTC responders are likely to fall—35 to 44 years, 45 to 54 years and 55 to 64 years—cancer ranks as the number one cause of death in each of those age groups.<sup>148</sup> Therefore, since cancer is not an unexpected disease in responders age 35 to 65, its temporal occurrence subsequent to the WTC disaster is not, by itself, an indication of a causal association between WTC exposures and the development of that cancer. Also, since cancer incidence and mortality both increase with age, it will

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infoplease.com/ipa/A0005124.html (last visited Sept. 8, 2007).

<sup>144</sup> American Cancer Society, Statistics for 2006, [http://www.cancer.org/docroot/STT/stt\\_0\\_2006.asp?sitearea=STT&level=1](http://www.cancer.org/docroot/STT/stt_0_2006.asp?sitearea=STT&level=1) (last visited on Sept. 8, 2007).

<sup>145</sup> N. Y. State Cancer Registry, N. Y. State Dep't of Health, Table 6: Cancer incidence and mortality by age group and region, 2000–2004, New York State (2007), *available at* <http://www.health.state.ny.us/statistics/cancer/registry/table6/tb6totalnyc.htm>.

<sup>146</sup> *Id.*

<sup>147</sup> BUREAU OF LABOR STATISTICS, TABLE A-27, PERSONS AT WORK IN NONAGRICULTURAL INDUSTRIES BY AGE, SEX, RACE, HISPANIC OR LATINO ETHNICITY, MARITAL STATUS AND USUAL FULL- OR PART-TIME STATUS (2007), *available at* <http://www.bls.gov/web/cpseea27.pdf>.

<sup>148</sup> BUREAU OF VITAL STATISTICS, NEW YORK CITY DEP'T OF HEALTH AND MENTAL HYGIENE, SUMMARY OF VITAL STATISTICS, 2005, THE CITY OF NEW YORK 13 (2006), *available at* <http://www.nyc.gov/html/doh/downloads/pdf/vs/2005sum.pdf>.

not be unexpected, then, to observe increasing cancer occurrence and death from cancer in the responder population as they age.

To distinguish between those cases that one would expect to occur regardless of any WTC exposures from those cases that may have occurred because of WTC exposures—determining on a population basis whether there is an excess risk of developing cancer in WTC-affected populations—is scientifically difficult and resource intensive. In addition, there are ethical challenges to making governmentally-provided medical treatment to WTC responders or other affected populations contingent on proving a positive association between WTC exposure and chronic health effects by means of a multi-year longitudinal study. The 15 to 20 year time frame for prospective excess morbidity or mortality studies raises the ethical issue that even if a causal association is found, the findings may only benefit a small number of responders who survive the time frame of the study. Like other long term excess mortality studies, the real beneficiaries may be future responders.

#### *G. Funding for the Monitoring and Treatment of Health Effects*

In 2002, Congress provided the National Institute for Occupational Safety and Health (“NIOSH”) with \$12 million to begin a medical screening program for responders and volunteers to compliment the FDNY medical screening program which had been funded by the American Red Cross.

In 2003, based on initial reports of a high prevalence of adverse respiratory and mental health effects in responders from both FDNY and the Mt. Sinai Consortium, Congress appropriated an additional \$90 million to establish five-year medical monitoring programs at FDNY and at the Mt. Sinai Consortium which provides for medical evaluation of enrolled responders and volunteers every 18 months.<sup>149</sup> In addition to providing funds for medical monitoring of WTC responders in the 2003 Consolidated

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<sup>149</sup> Consolidated Appropriations Resolution, Pub. L. No. 108-7, 117 Stat. 11, 517–518 (2003), *available at* [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108\\_cong\\_public\\_laws&docid=f:publ007.108.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=108_cong_public_laws&docid=f:publ007.108.pdf).

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Appropriations Resolution, Congress also provided \$1 billion “to establish a captive insurance fund . . . for claims arising from debris removal, which may include claims made by city employees.”<sup>150</sup> On August 8, 2007, a lawsuit was filed against the WTC Captive Insurance Company, the Mayor of New York City, and members of the Board of Directors of the WTC Captive Insurance Fund, by three WTC responders.<sup>151</sup> The plaintiffs allege that the Captive Insurance Fund has failed to distribute funds for injured responders and that the defendants have converted such funds for their own benefit.<sup>152</sup>

In 2006, Congress appropriated \$75 million to add a treatment arm to the monitoring program for those who are sick from WTC-associated conditions, as well as funding other support functions for the Registry and the New York City police officers.<sup>153</sup> In 2007, Congress provided an additional \$50 million for medical treatment of responders and volunteers.<sup>154</sup>

In the 110<sup>th</sup> Congress, three bills have been introduced to provide funding in the future to monitor and treat the physical and mental health effects seen in WTC-affected populations. First, Congressman Nadler and 31 co-sponsors introduced on February 28, 2007 H.R. 1247, the “9/11 Comprehensive Health Benefits Act of 2007.”<sup>155</sup> H.R. 1247 amends Title XVIII of the Social Security

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<sup>150</sup> *Id.*

<sup>151</sup> *Walcott v. WTC Captive Ins. Co., Inc.*, No. 1:2007cv07072 (S.D.N.Y. filed Aug. 8, 2007), *available at* [http://dockets.justia.com/docket/court-nysdce/case\\_no-1:2007cv07072//case\\_id-311197](http://dockets.justia.com/docket/court-nysdce/case_no-1:2007cv07072//case_id-311197).

<sup>152</sup> Press Release, Marc Jay Bern, Worby Groner & Napoli Bern, LLP, Injured Ground Zero Workers Slam WTC Captive Ins. Co. & Mayor Bloomberg Over Misuse of FEMA Funds (July 17, 2007), *available at* <http://news.findlaw.com/prnewswire/20070718/18jul20072009.html>.

<sup>153</sup> Press Release, U.S. Dep’t of Health and Human Serv’s, “HHS Completes Allocation of \$75 Million for World Trade Center Health Care,” (October 27, 2006), *available at* <http://www.hhs.gov/news/press/2006pres/20061027.html>.

<sup>154</sup> U.S. Troop Readiness, Veterans’ Care, Katrina Recovery and Iraq Accountability Appropriations Act, Pub. L. No. 110-28, 121 Stat. 112 (2007) *available at* [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110\\_cong\\_public\\_laws&docid=f:publ028.110.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_public_laws&docid=f:publ028.110.pdf).

<sup>155</sup> 9/11 Comprehensive Health Benefits Act of 2007, H.R. 1247, 110th

Act to provide “every 9/11 impacted individual” who has a 9/11 disaster-connected health condition benefits under the federal Medicare program.<sup>156</sup> H.R. 1247 proposes that medical coverage eligibility would be based on “formal diagnosis of a qualified medical practitioner or therapist and can reasonably be considered in the judgment of such practitioner or therapist to be associated with exposure to the 9/11 New York terrorist attacks.” Second, on March 22, 2007, Congresswoman Carolyn Maloney and Congressman Vito Fossella introduced H.R. 1638, the “James Zadroga 9/11 Health and Compensation Act.”<sup>157</sup> H.R. 1638 authorizes an extension of funding for the existing medical monitoring and treatment programs for responders at FDNY and the Mt. Sinai Consortium and for “research on physical and mental health conditions that may be related to the September 11<sup>th</sup> terrorist attacks.” Additionally, it establishes a “9/11 Health Emergency Coordinating Council”<sup>158</sup> and re-opens the September 11 Victim’s Compensation Fund.”<sup>159</sup>

Third, Representatives Maloney, Nadler, and Fossella announced on September 7, 2007 that they would introduce a new bill called the Maloney-Nadler-Fossella 9/11 Health and Compensation Act which would establish the WTC Health Program, provide monitoring and treatment for WTC responders in the New York City area and outside the area, as well as area residents and other non-responders, provide for research into conditions, extend support for the NYC Department of Health and Mental Hygiene, and reopen the September 11, 2001 Victim Compensation Fund.<sup>160</sup> On September 17, 2007, H.R. 3543 was

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Cong. (1st Sess. 2007), *available at* <http://www.govtrack.us/congress/billtext.xpd?bill=h110-1247>.

<sup>156</sup> *Id.*

<sup>157</sup> James Zadroga 9/11 Health and Compensation Act of 2007, H.R. 1638, 110th Cong. (1st Sess. 2007), *available at* <http://www.govtrack.us/congress/billtext.xpd?bill=h110-1638>.

<sup>158</sup> *Id.*

<sup>159</sup> *Id.*

<sup>160</sup> Press Release, Reps. Maloney, Nadler & Fossella to Introduce Bipartisan 9/11 Health and Compensation Act (Sept. 7, 2007), *available at* <http://maloney.house.gov> (follow “View All Press Releases” hyperlink at

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introduced by Representatives Maloney, Nadler, Fossella, and 46 co-sponsors as a new version of the James Zadroga 9/11 Health and Compensation Act of 2007.<sup>161</sup>

On the fifth year commemoration of the WTC terrorist attacks on September 11, 2006, New York City (“NYC”) announced funding for WTC health care. NYC Mayor Michael R. Bloomberg announced that the city would (1) establish an Environmental Health Center at Bellevue Hospital to provide comprehensive assessment and treatment services for those not eligible for federal funding, (2) fund the Center with \$16 million over 5 years, and (3) provide the NYC Department of Health and Mental Hygiene \$21.6 million to expand the activities of its WTC Unit.<sup>162</sup>

The Mayor also directed NYC Deputy Mayors Linda Gibbs and Edward Skyler to co-chair a panel of all NYC agencies that serve or represent individuals affected by the WTC-related illnesses.<sup>163</sup> The Mayor asked for the Panel to develop recommendations to ensure those affected by WTC exposures would receive appropriate health care and that all municipal policies concerning WTC-related health issues would be well-coordinated.<sup>164</sup> The Mayor’s Panel issued its report and recommendations to Mayor Bloomberg on February 13, 2007 and the Mayor accepted the report and its recommendations in full.<sup>165</sup>

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bottom).

<sup>161</sup> James Zadroga 9/11 Health and Compensation Act of 2007, H.R. 3543, 110th Cong. (1st Sess. 2007), *available at* <http://thomas.loc.gov/cgibin/query/D?c110:1::/temp/~c110MfyMvE::>.

<sup>162</sup> Press Release, Office of the Mayor, New York City, Mayor Bloomberg Announces Comprehensive Citywide Effort to Address 9/11 World Trade Center Health-Related Issues (Sept. 5, 2006), *available at* <http://www.nyc.gov> (follow “Office of the Mayor” hyperlink, then follow “News and Press Releases” hyperlink, then follow “2006 Events” hyperlink, then follow “September 2006” hyperlink).

<sup>163</sup> *Id.*

<sup>164</sup> *Id.*

<sup>165</sup> Office of the Mayor, New York City, Mayor Bloomberg Accepts Panel Recommendations to Expand Response to Health Impacts of Attacks on the World Trade Center (Feb. 13, 2007), *available at* <http://www.nyc.gov> (follow “Office of the Mayor” hyperlink, then follow “News and Press Releases” hyperlink, the follow “February 2007” hyperlink).



The report acknowledged that many people continue to suffer adverse health effects “that are or may be associated with WTC exposure” and made 15 specific recommendations including two that were directed at the federal government: (1) the City should ensure that federal funding is available for treatment of “9/11-related physical and mental health needs for all affected and potentially affected populations;”<sup>166</sup> and (2) Congress should reopen the September 11<sup>th</sup> Victim’s Compensation Fund.<sup>167</sup>

At the federal level, the President’s Fiscal Year (FY) 2008 federal budget allots \$25 million for health care for first responders.<sup>168</sup> The amount proposed in the President’s proposed budget is widely acknowledged as a “placeholder” figure and is expected to be revised on the recommendation of the Secretary of the U.S. Department of Health and Human Services as the FY 2008 budget is finalized in the Congress.<sup>169</sup>

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<sup>166</sup> LINDA GIBBS & EDWARD SKYLER: WORLD TRADE CENTER PANEL, ADDRESSING THE HEALTH IMPACTS OF 9–11: REPORT AND RECOMMENDATIONS TO MAYOR MICHAEL R. BLOOMBERG 6 (2007), *available at* [http://www.nyc.gov/html/om/pdf/911\\_health\\_impacts\\_report.pdf](http://www.nyc.gov/html/om/pdf/911_health_impacts_report.pdf).

<sup>167</sup> *Id.*

<sup>168</sup> BUDGET OF THE UNITED STATES GOVERNMENT, FISCAL YEAR 2008—APPENDIX, DEPARTMENT OF HEALTH AND HUMAN SERVICES, PUBLIC HEALTH AND SOCIAL SERVICES EMERGENCY FUND 435, *available at* <http://www.whitehouse.gov/omb/budget/fy2008/pdf/appendix/hhs.pdf> (last visited on October 26, 2007). The President’s 2008 Budget for the United States Government includes a provision in the Public Health Emergency and Social Services Emergency Fund “[F]or expenses to provide screening and treatment for first response emergency services personnel related to the September 11, 2001, terrorist attacks on the World Trade Center, \$25,000,000 shall be available until expended.” *Id.*

<sup>169</sup> Michael Leavitt, U.S. Department of Health and Human Services (HHS) Secretary, at a meeting of the New York State U.S. Senate and House of Representatives (Sept. 7, 2006) (noting that he was forming an HHS WTC Task Force to make recommendations about how to provide ongoing health care to responders whose health was adversely affected while conducting rescue, recovery and clean-up activities at Ground Zero). For additional perspectives on the Secretary’s Task Force, *see generally* 9/11 Health Effects: HHS’s Monitoring and Treatment of Responders Before the Subcomm. on Gov’t Mgmt., Organd Procurement, 110th Cong. (2007) (statement of John Agwunobi, Assistant Secretary for Health), *available at*

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## III. COMPENSATION MECHANISMS

The terrorist attacks in New York City, at the Pentagon in Arlington, Virginia, and over the skies of Shanksville, Pennsylvania resulted in an unprecedented loss of life, health, property, and income for thousands of individuals and business. The attacks also generated an equally unprecedented outpouring of effort to provide compensation to those who were affected by the attacks. In 2004, a study by the RAND Corporation (“RAND”)<sup>170</sup> quantified total compensation from all sources that was paid to individuals and businesses as a result of the terrorist attacks of September 11, 2001.<sup>171</sup> Approximately \$38.1 billion in expenditures was captured in the RAND study.<sup>172</sup> This amount can be divided into three major categories: (1) \$2.7 billion (7 percent) from charity; (2) \$15.8 billion (42 percent) from government; and (3) \$19.6 billion (51 percent) from insurance.<sup>173</sup> Another major source of compensation following accident events, tort awards, has not (as yet) been a

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<http://governmentmanagement.oversight.house.gov/documents/20070711111832.pdf>; Hillary Clinton, Remarks of Senator Hillary Rodham Clinton on the Progress Since 9/11: Protecting Public Health and Safety of the Responders and Residents (Sept. 8, 2006), *available at* <http://clinton.senate.gov/news/statements/details.cfm?id=262741>; Press Release, Very First Federal Dollars for 9/11 Health Treatment to be Distributed by October 1 (Sept. 7, 2006), *available at* <http://maloney.house.gov> (follow “View All Press Releases” hyperlink at bottom, then select “Search Press Releases” for “2006”, then follow “next” hyperlink ); <http://www.hhs.gov/wtc/identify> (last visited July 27, 2007).

<sup>170</sup> The RAND Corporation traces its origins back to World War II. In 1948, Project RAND (a contraction of the words “research” and “development”) separated from the Douglas Aircraft Company, located in Santa Monica, California, and incorporated as an independent, non-profit organization dedicated “to furthering and promoting scientific, educational, and charitable purposes for the public welfare and the security of the United States.” Rand.org, History and Mission, <http://www.rand.org/about/history> (last visited on Nov. 9, 2007).

<sup>171</sup> LLOYD DIXON & RACHEL KAGANOFF STERN, COMPENSATION FOR LOSSES FROM THE 9/11 ATTACKS, at XVIII (2004), *available at* <http://www.rand.org/pubs/monographs/MG264/>.

<sup>172</sup> *Id.*

<sup>173</sup> *Id.*

major source of support for individuals or business.<sup>174</sup>

Seven major categories of individuals and business entities received varying proportions of the \$38.1 billion in total compensation.<sup>175</sup> Businesses received \$23.3 billion (61 percent) largely from property damage and business interruption insurance policies.<sup>176</sup> Civilians killed or seriously injured received \$8.7 billion (23 percent), chiefly from insurance and government with a small portion coming from charitable giving.<sup>177</sup> WTC responder-workers killed or seriously injured received \$1.9 billion (5 percent), chiefly from government, but also a small contribution from charity.<sup>178</sup> Non-responder workers received \$1.7 billion (4.5 percent) from government and charity.<sup>179</sup> Lower Manhattan residents received \$900 million (2.3 percent) from insurance and government with a small contribution from charity.<sup>180</sup> People suffering environmental exposures from debris, smoke and dust—residents and commercial building occupants—received a total of \$660 million (1.7 percent) with the majority coming from government and small amounts from insurance and charity.<sup>181</sup> Finally, the RAND study accounted for \$210 million (0.6 percent) received by those who suffered emotional injuries.<sup>182</sup>

Contributions from charity, government and insurance represent the traditional societal mechanisms that are in place to provide compensation to those who suffer losses of life, health,

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<sup>174</sup> *Id.* The RAND Report states that “[A]s of this writing, no payments have been made through the tort system. Some tort cases are being pursued, but it will be some time before the tort cases that have been filed are settled.” *Id.* See *infra* Part III.D.

<sup>175</sup> *Id.* at xix.

<sup>176</sup> *Id.* at xix.

<sup>177</sup> LLOYD DIXON & RACHEL KAGANOFF STERN, COMPENSATION FOR LOSSES FROM THE 9/11 ATTACKS XVIII (2004), available at <http://www.rand.org/pubs/monographs/MG264/>.

<sup>178</sup> *Id.*

<sup>179</sup> *Id.*

<sup>180</sup> *Id.*

<sup>181</sup> *Id.* at xxv.

<sup>182</sup> *Id.* at xxvi.

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livelihood or business interests from any accidental event.<sup>183</sup> How effective each of these mechanisms were in accomplishing their compensation task—especially for those responders and others whose health was not affected immediately after the event, but much later in time—is still an open question.

*A. Charitable Giving*

Both personal and philanthropic charitable giving in response to the terrorist attacks of September 11, 2001 was significant by historical standards. The most important conduit for private donations was the American Red Cross (“ARC”). People across the United States, and around the world, donated nearly \$1.1 billion to the ARC.<sup>184</sup> The ARC used the donated money to establish the September 11<sup>th</sup> Liberty Disaster Relief Fund (the “Liberty Fund”).<sup>185</sup>

Using Liberty Fund resources, the ARC created the September 11<sup>th</sup> Recovery Program to offer recovery services to victims during the three to five years following the WTC disaster.<sup>186</sup> The Program provided \$282.2 million in living expenses for rescue workers, residents and workers; \$209.2 million in family gifts; \$186.4 million for immediate and long term program costs; \$167.9 million in supplemental gifts; \$71.2 million in funding for support organizations; \$14.7 million for mental health services; \$12.2 million in health care expenses for victims; \$11.8 million for special circumstances gifts; and only utilized \$66.4 million for fund stewardship and anniversary travel.<sup>187</sup> At the end of December 2005, the September 11<sup>th</sup> Recovery Program had \$46.5 million in donated funds remaining, which the ARC will use to support non-

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<sup>183</sup> LEX K. LARSON & ARTHUR LARSON, *WORKER’S COMPENSATION LAW* 660 (3rd ed. 2000).

<sup>184</sup> ALAN GOODMAN, *AMERICAN RED CROSS: SEPTEMBER 11 RECOVERY PROGRAM AUGUST 2002–SEPTEMBER 2006* (2006), available at <http://www.redcross.org/images/pdfs/SRPReport.pdf>.

<sup>185</sup> *Id.*

<sup>186</sup> *Id.*

<sup>187</sup> *Id.*

profit agencies that can deliver services to WTC-affected groups.<sup>188</sup>

To determine how the program performed to meet victims' needs, the ARC commissioned an evaluation by the non-partisan Urban Institute. The Urban Institute conducted extensive interviews with hundreds of recipients of the Liberty Fund and found that the quality of the ARC's World Trade Center services received high marks.<sup>189</sup>

As a mechanism of compensation from the WTC attacks, charitable giving not only quickly provided services to those most in need, it also filled an important gap in the social compensation network for the WTC-affected populations. Charity was able to provide services to those who were not eligible for government aid or who did not have any insurance benefits, such as unauthorized immigrant workers and others who did not qualify for government aid or underinsured, small business owners.<sup>190</sup>

#### *B. Government Aid*

Government at all levels—federal, state and municipal—sent scores of personnel and resources to NYC in response to the immediate needs of survivors of the WTC disaster. The Federal Emergency Management Administration (“FEMA”), U.S. Department of Health and Human Services (“HHS”), the U.S. Environmental Protection Agency, and several other federal, state and municipal government agencies, provided hundreds of millions of dollars to care for emergency physical and mental health care services, environmental assessment, and other support services immediately after the towers collapsed.<sup>191</sup> An important governmental response effort in the area of WTC compensation was a unique program called the September 11<sup>th</sup> Victims

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<sup>188</sup> *Id.*

<sup>189</sup> ELAINE MORLEY ET AL., AN ASSESSMENT OF SERVICES PROVIDED UNDER THE AMERICAN RED CROSS SEPTEMBER 11 RECOVERY GRANTS PROGRAM (2006), *available at* <http://www.urban.org/publications/411346.html>.

<sup>190</sup> *Id.*

<sup>191</sup> For example, U.S. Department of Health and Human Services' funded activities related to the WTC disaster totaled nearly one billion dollars, *available at* <http://www.hhs.gov/wtc/doing> (last visited on September 8, 2007).

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## Compensation Fund.

*1. The September 11<sup>th</sup> Victims Compensation Fund*

In the midst of great concern about the economic viability of the airline industry in the United States, Congress drafted, debated and passed the Air Transportation Safety and System Stabilization Act of 2001 (the “Act”).<sup>192</sup> The President signed it into law on September 22, 2001.<sup>193</sup> The Act accomplished three goals: (1) it provided \$15 billion in loan guarantees and cash to assist airlines in meeting their direct and incremental losses from the terrorist attacks; (2) it created an exclusive federal right of action for anyone claiming to have been damaged as a result of the terrorist attacks in one forum—the Federal District Court for the Southern District of New York; and (3) it created the September 11<sup>th</sup> Victim Compensation Fund (“Fund”).<sup>194</sup>

The Fund was established to “provide compensation to any individual (or relatives of a deceased individual) that was physically injured or killed as a result of the terrorist-related aircraft crashes of September 11, 2001.”<sup>195</sup> Using a no-fault approach to compensation, like that found in state workers’ compensation statutes, Congress decided that those injured or killed should be compensated without having to prove negligence by any party.<sup>196</sup> Congress did, however, place several limitations on eligibility to the Fund.<sup>197</sup>

First, upon submission of either a claim on their own behalf or on behalf of another, the regulation required the claimants to waive their right to file—or to be a party to—a civil action in federal or state court for “damages sustained as a result of the terrorist-

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<sup>192</sup> Air Transportation Safety and System Stabilization Act, Pub. L. No. 107-42, § 1-601, 115 Stat. 230 (2003) (codified at 49 U.S.C.A. § 40101).

<sup>193</sup> *Id.*

<sup>194</sup> *Id.*

<sup>195</sup> Air Transportation Safety and System Stabilization Act, Pub. L. No. 107-42, § 403, 115 Stat. 230 (2003) (codified at 49 U.S.C.A. § 40101).

<sup>196</sup> *Id.*

<sup>197</sup> *Id.*

related airline crashes of September 11, 2001.”<sup>198</sup> The Fund’s requirement that a claimant waive his or her right to sue upon submission of a claim in exchange for administrative relief under the Fund is similar to the compulsory *quid pro quo* bargain between an injured worker (who gives up his right to sue the employer for tort damages) and his or her employer (who relieved of the risk of having to pay tort damages agrees to provide compensation to the injured employee) contained in New York State’s workers’ compensation statute and upheld by the U.S. Supreme Court.<sup>199</sup>

Second, an individual had to be physically present at the World Trade Center, at the Pentagon, or at the site of the Shanksville, Pennsylvania crashes “at the time of, or in the immediate aftermath of the terrorist-related aircraft crashes of September 11, 2001.”<sup>200</sup> The regulation further defined the term “immediate aftermath” as “the period of time from the crashes until 12 hours after the crashes” for all claimants other than rescue workers, and “the period from the crashes until 96 hours after the crashes” for rescue workers who assisted in efforts to search for and recover victims.<sup>201</sup>

Many ill responders who engaged in rescue, recovery, and cleanup work at the site did not arrive at the site until after 96 hours had elapsed, thereby rendering them ineligible for recovery under the Fund. Even some of those ill responders present in the

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<sup>198</sup> Air Transportation Safety and System Stabilization Act, Pub. L. No. 107-42, § 405 (c)(3)(B)(i), 115 Stat. 240 (2001).

<sup>199</sup> N.Y. Cent. R.R. Co. v. White, 243 U.S. 188, 204 (1917) (stating that [I]t is plain that, on grounds of natural justice, it is not unreasonable for the State, while relieving the employer from responsibility from damages measured by common law standards and payable in cases where he or those for whose conduct he is answerable are found to be at fault, to require him to contribute a reasonable amount, and according to a reasonable and definite scale, by way of compensation for the loss of earning power incurred in the common enterprise, irrespective of the question of negligence, instead of leaving the entire loss to rest where it may chance to fall—that is, upon the injured employee or his dependents).

<sup>200</sup> Air Transportation Safety and System Stabilization Act, Pub. L. No. 107-42, § 405 (c)(2)(A)(i), 115 Stat. 239 (2001).

<sup>201</sup> 28 C.F.R. § 104.2(b) (2002).

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first 96 hours did not become ill until after the December 22, 2003 deadline for submission of claims to the Fund had elapsed.<sup>202</sup> The immediate aftermath limitation on physical presence for rescue workers, although longer in duration than that for non-rescue worker claimants, together with the Fund's short filing deadline, has operated to deny Fund eligibility to many ill WTC responders. As a result, both early-arriving and later-arriving responders are now pursuing fault-based tort litigation actions.<sup>203</sup>

Interim final<sup>204</sup> and final<sup>205</sup> regulations governing administration of the Fund provided a gender and race-neutral methodology to calculate economic damage awards<sup>206</sup> and stipulated a fixed figure for non-economic (pain and suffering) damages.<sup>207</sup> The collateral source rule<sup>208</sup> reduced an award from the Fund by the amount received from insurance, pension and similar sources.<sup>209</sup> However, gifts from private charities (even if their original source was the government) were not included in a collateral offset.<sup>210</sup>

The Fund was shutdown on June 15, 2004.<sup>211</sup> At closure, the

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<sup>202</sup> Air Transportation Safety and System Stabilization Act, Pub. L. No. 107-42, § 405 (a)(3), 115 Stat. 239 (2001); 28 C.F.R. § 104.62.

<sup>203</sup> *In re World Trade Center Disaster Site Litig.*, 456 F. Supp. 2d 520, 526–30 (S.D.N.Y. 2006).

<sup>204</sup> September 11th Victim Compensation Fund of 2001; Interim Final Rule, 66 Fed. Reg. 66,273–66,291 (Dec. 21, 2001) (to be codified at 28 C.F.R. pt. 104).

<sup>205</sup> September 11th Victim Compensation Fund of 2001; Final Rule, 67 Fed. Reg. 49, 11,233–11,247 (Mar. 13, 2002) (to be codified at 28 C.F.R. pt. 104).

<sup>206</sup> See 28 C.F.R. § 104.43 (2007).

<sup>207</sup> Non-economic damage awards were fixed at \$250,000, “plus an additional \$100,000 for the spouse and each dependent of the decedent.” 28 C.F.R. § 104.44 (2007).

<sup>208</sup> Collateral source rule is “the doctrine that if an injured party receives compensation for the injuries from a source independent of the tortfeasor, the payment should not be deducted from the damages that the tortfeasor must pay. Insurance proceeds are the most common collateral source.” BLACK’S LAW DICTIONARY 219 (8th ed. 2004).

<sup>209</sup> 28 C.F.R. § 104.41 (2007); 28 C.F.R. pt. 104.47 (2007).

<sup>210</sup> 28 C.F.R. § 104.47 (2007).

<sup>211</sup> Closing Statement from the Special Master, Mr. Kenneth R. Feinberg,



Fund's Special Master, Kenneth R. Fineberg, noted "over 7,300 claims for death or physical injury" were processed and "over 98 percent of eligible families who had lost a loved one voluntarily decided to participate and submitted claims to the Fund" instead of pursuing litigation.<sup>212</sup> Although Mr. Fineberg characterized the Fund as representing "the best in the American character" and being "a tribute to the American people,"<sup>213</sup> others expressed concern about legal and policy issues raised by the Fund.<sup>214</sup> Specifically, concerns were expressed about the use of tax revenues to compensate personal injuries that the government did not cause and about making receipt of government aid contingent on the person relinquishing their right to sue.<sup>215</sup>

It is uncertain whether the Fund is the appropriate model for handling future personal injury claims arising from terrorist acts occurring in the United States. As an administrative no-fault alternative to tort, the Fund was viewed as an acceptable alternative by Congress and most of its beneficiaries.<sup>216</sup>

## 2. *Efforts to Re-Open September 11<sup>th</sup> Victim Compensation Fund*

Several factors have prompted continuing discussion about "re-opening" the Fund. Chief among these factors is an increasing awareness of the number of responders who are experiencing later onset mental and physical health effects following their WTC

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on the Shutdown of the September 11th Victim Compensation Fund, U.S. Department of Justice, September 11th Victim Compensation Fund, *available at* <http://www.usdoj.gov/archive/victimcompensation/closingstatement.pdf> (last visited on July 27, 2007).

<sup>212</sup> *Id.*

<sup>213</sup> *Id.*

<sup>214</sup> Joan Bernott Maginnis, *The Federalist Soc'y for Law and Pub. Policy Studies, The 9/11 Victim Compensation Fund: Overview and Comment*, THE FEDERALIST SOCIETY, Mar. 27, 2002, at 2, [http://www.fedsoc.org/publications/PubID.136/pub\\_detail.asp](http://www.fedsoc.org/publications/PubID.136/pub_detail.asp).

<sup>215</sup> *Id.*

<sup>216</sup> James R. Copland, *Tragic Solutions: The 9/11 Victim Compensation Fund, Historical Antecedents and Lessons for Tort Reform* (Jan. 13, 2005) (Center for Legal Policy Working Paper), *available at* [http://www.manhattan-institute.org/pdf/clpwp\\_01-13-05.pdf](http://www.manhattan-institute.org/pdf/clpwp_01-13-05.pdf).

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exposures and who are not eligible to apply for benefits from the Fund.<sup>217</sup> Nearly three years after closure of the Fund, Congress introduced legislation to re-open the Fund.<sup>218</sup> H.R. 1638, and its successor legislation, H.R. 3543, would amend the Air Transportation Safety and System Stabilization Act of 2001 to allow a claim to be filed by an individual or a personal representative on behalf of a deceased individual under two exceptions.<sup>219</sup>

The first exception permits a claim to be filed during the 5-year period after the date of enactment of the amendment if the Special Master determines that an individual (1) did not know that he or she had suffered physical harm as a result of the terrorist-related aircraft crashes of September 11, 2001 until after December 22, 2003, and before the date of enactment of the Act; (2) did not for any reason know that he or she was eligible to file a claim until after December 22, 2003; (3) suffered psychological harm as a result of the terrorist-related aircraft crashes; or (4) who is a previous Fund claimant, suffered a significantly greater physical harm than was known to the individual as of the date the claim was filed, and did not know the full extent of the physical harm suffered as a result of the terrorist-related aircraft crashes until after the date on which the claim was filed and before the date of enactment.<sup>220</sup>

The second exception permits a claim to be filed during the five year period after the date that the individual: (1) first knew that he

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<sup>217</sup> Many responders did not become aware that the ill-health they were experiencing was related to their WTC exposures until after the period of filing under the Fund had closed. See LINDA GIBBS & EDWARD SKYLER, WORLD TRADE CTR. HEALTH PANEL, ADDRESSING THE HEALTH IMPACTS OF 9-11 (Feb. 13, 2007), *available at* [http://home.nyc.gov/html/om/pdf/911\\_health\\_impacts\\_report.pdf](http://home.nyc.gov/html/om/pdf/911_health_impacts_report.pdf).

<sup>218</sup> Two bills have been introduced in the U.S. House of Representatives that address the same issue of re-opening the Fund. See H.R. 1638, 110th Cong. (1st Sess. 2007), *available at* <http://www.govtrack.us/congress/billtext.xpd?bill=h110-1638>; H.R. 3543, 110th Cong. (1st Sess. 2007), *available at* <http://thomas.loc.gov/cgi-bin/query/D?c110:1:./temp/~c110MfyMvE::>.

<sup>219</sup> James Zadroga 9/11 Health and Compensation Act of 2007, H.R. 3543, 110th Cong. (1st Sess. 2007), *available at* <http://thomas.loc.gov/cgi-bin/query/D?c110:1:./temp/~c110gT2hvd::>.

<sup>220</sup> *Id.*

or she had suffered physical or psychological harm, so long as the Special Master determines that the individual did not know of such harm until a date that is on or after the date of enactment, or (2) in the case of an individual who had previously filed a claim and who had suffered a significantly greater physical harm than was known to the individual when the claim was filed, or had suffered psychological harm, first knew of the full extent of the physical and psychological harm suffered, so long as the Special Master determines that the individual did not know the full extent of the harm until a date that is on or after the date of enactment.<sup>221</sup>

Proposed Title III of H.R. 1638 would also amend Section 405(c)(2)(A)(i) of the Act to give the Special Master the power to define the term “immediate aftermath.”<sup>222</sup> The starting point for a redefined “immediate aftermath” would be “any period of time after the terrorist-related aircraft crashes of September 11, 2001” to that time the Special Master determines “was sufficiently close in time to the crashes that there was a demonstrable risk to the claimant of physical or psychological harm resulting from the crashes, including the period of time during which rescue, recovery, and cleanup activities relating to the crashes were conducted.”<sup>223</sup> A redefined “immediate aftermath,” so long as such a period of time included the span of time during which all WTC recovery and cleanup activities were completed, would make eligible the entire estimated responder population of nearly 92,000 individuals.<sup>224</sup>

### *C. Insurance Payments*

Insurance payments were a third mechanism of compensating businesses and individuals for losses arising from the terrorist attacks of September 11, 2001. However, insurance payments were not equally distributed; more than 85 percent of insurance payments went to business enterprises under various policies such as property casualty, business interruption, and event

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<sup>221</sup> *Id.*

<sup>222</sup> *Id.*

<sup>223</sup> *Id.*

<sup>224</sup> *Id.*

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cancellation,<sup>225</sup> leaving small businesses poorly compensated.<sup>226</sup> Prior to September 11, 2001, businesses did not carry insurance against terrorism-related losses, whereas many businesses now carry such insurance through the federally sponsored Terrorism Risk Insurance Program (“TRIA”).<sup>227</sup> Individual insurance beneficiaries received the remaining 15 percent of insurance payments under individual life insurance policies, individual and employer-based disability policies, and under employer-financed workers’ compensation policies and pension plans.<sup>228</sup>

Insurance payments under workers’ compensation policies have not been problematic for those workers who were killed or injured as a result of the aircraft crashes on September 11, 2001. However, for rescue, recovery, or cleanup workers who responded as a job duty or as a volunteer, “state workers’ compensation systems, designed to handle workplace injuries like broken arms, are not well suited for determining an illness that may take months or years to develop.”<sup>229</sup>

The issue may be both legal and perceptual. First, there are a number of specific characteristics of New York State’s workers’ compensation laws that act as obstacles for WTC responder-

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<sup>225</sup> DIXON & STERN, *supra* note 171, at xx.

<sup>226</sup> DIXON & STERN, *supra* note 171, at xxix.

<sup>227</sup> Terrorism Risk Insurance Act of 2002, Pub. L. No. 107-297, 116 Stat. 2322 (2002). On November 26, 2002, President Bush signed into law the Terrorism Risk Insurance Act (“TRIA”) to ensure that the U.S. economy could recover from financial devastation caused by future terrorist attacks and which was set to expire in December 31, 2005. On December 22, 2005, President Bush signed the Terrorism Risk Insurance Extension Act of 2005, Pub. L. 109-144, 119 Stat. 2660 (2005), which extended the Program through December 31, 2007. TRIA requires the federal government to pay a share of compensation for insured losses in accordance with Section 103(e) of the Act. The Extension Act provided that no federal share would be paid unless the aggregate industry insured losses from a certified act of terrorism after March 31, 2006 exceeded a certain amount. *See* Terrorism Risk Insurance Program; TRIA Extension Act Implementation, 71 Fed. Reg. 165, 50341-50347 (Aug. 25, 2006).

<sup>228</sup> *Id.*

<sup>229</sup> Anthony DePalma, *Officials Slow to Hear Claims of 9/11 Illnesses*, N.Y. TIMES, Sept. 5, 2006, available at <http://www.nytimes.com/2006/09/05/nyregion/05health.html>.

claimants who are employees of NYC. Second, there is a view that NYC, as a self-insured employer, tends to controvert claims from its responder-employees to be consistent with its litigation position in a tort suit for damages arising from WTC exposures brought by some of those same responder-employees.<sup>230</sup>

Regardless of the legal and perceptual issues, it should not come as a surprise that a compensation system crafted in the late 19<sup>th</sup> century in response to accidents of the early-to-mid Industrial Revolution, and based squarely on the actuarial risk of foreseeable industrial injuries, would have trouble responding to an unprecedented workplace risk arising from terrorist attacks by means of hijacked jet aircraft.

### *1. Workers' Compensation Insurance*

In New York, the industrial accident crisis of the middle to late 19<sup>th</sup> century led to a number of responses: judges created a common law of torts to deal with the onslaught of industrial accidents; manufacturing workers chartered cooperative insurance societies to protect themselves and their families from the ruin occasioned by an industrial accident; and employers developed private compensation plans.<sup>231</sup> Ultimately, these efforts were not successful, and advocates for a no-fault administrative compensation system finally succeeded in New York State in 1910 when the legislature enacted compulsory accident-compensation laws.<sup>232</sup> The new law had an inauspicious start as the state's highest court struck it down eight months after its enactment as an unconstitutional taking of employers' property.<sup>233</sup> A constitutional

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<sup>230</sup> Op-Ed., *\$400M For Lawyers? The Sick and Dying of 9-11 Deserve Better*, N.Y. DAILY NEWS, Sept. 3, 2006, available at [http://www.nydailynews.com/news/2006/09/03/2006-09-03\\_400m\\_for\\_lawyers\\_the\\_sick\\_and\\_dying\\_of\\_9.html](http://www.nydailynews.com/news/2006/09/03/2006-09-03_400m_for_lawyers_the_sick_and_dying_of_9.html).

<sup>231</sup> JOHN FABIAN WITT, *THE ACCIDENTAL REPUBLIC: CRIPPLED WORKINGMEN, DESTITUTE WIDOWS AND THE REMAKING OF AMERICAN LAW* (Harvard University Press) (2004).

<sup>232</sup> Workmen's Compensation Law, Act of June 25, 1910, ch. 674, 1910 N.Y. Laws 1945.

<sup>233</sup> *Ives v. South Buffalo Ry. Co.*, 94 N.E. 431 (N.Y. 1911).

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amendment nullified the decision and made New York a pioneer in providing social insurance for workplace accidents.<sup>234</sup>

The introduction of a workers' compensation statute in New York State "represented a striking new introduction of actuarial categories and probabilistic principles into American law."<sup>235</sup> This point is important when considering the performance of a workers' compensation statute in an event as highly improbable or actuarially remote as the WTC disaster. The early 20<sup>th</sup> century design parameters for a workers' compensation scheme did not envision an event so thoroughly unforeseeable as the WTC disaster.

Immediately after the WTC disaster, Congress provided the New York State Workers' Compensation Board ("Board") \$175 million for various purposes including \$125 million for administrative expenses, \$25 million for the Uninsured Employers' Fund and \$25 million for volunteers for reimbursement of claims related to "the first response emergency services personnel who were injured, were disabled, or died due to the terrorist attacks."<sup>236</sup>

A concern soon after the WTC disaster was that many employers would be unable to cover the workers' compensation losses occasioned by the attacks.<sup>237</sup> That assessment turned out to be wrong; all employers with offices in the WTC towers with injured, disabled, or deceased workers as a result of the WTC disaster were able to cover their losses through existing policies.<sup>238</sup> A group that did lack insured employers was the WTC volunteers who had served as "first responder emergency services personnel."<sup>239</sup> Congress had not provided eligibility criteria to the Board for disbursement of the funds for emergency services

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<sup>234</sup> Witt, *supra* note 231, at 175.

<sup>235</sup> Witt, *supra* note 231, at 175.

<sup>236</sup> Department of Defense and Emergency Supplemental Appropriations for Recovery from and Response to Terrorist Attacks on the United States Act, 2002, Pub. L. No. 107-117, Ch. 115 Stat. 2230, 2312-13 (Jan. 10, 2002).

<sup>237</sup> Interview with Richard Bell, former Acting Executive Director, New York State Workers' Compensation Board, in Albany, N.Y. (May 12, 2006) [hereinafter Interview with Richard Bell].

<sup>238</sup> *Id.*

<sup>239</sup> *Id.*

personnel and the New York Legislature also failed to enact eligibility criteria for volunteers which would allow their claims to be paid by the Uninsured Employers' Fund (the "UEF").<sup>240</sup>

Acting on its own, the Board provided their criteria for accepting and adjudicating claims under the UEF, which included: (1) serving without compensation or remuneration; and (2) serving under the direction of an authorized rescue entity or volunteer agency providing services such as firefighting, rescue, emergency medical, health and sanitation services, emergency debris clearance, care and shelter of those made homeless, distribution of food, water and medical supplies, and other equipment.<sup>241</sup> The second prong of the eligibility criteria—the proof of presence requirement—proved difficult for "spontaneous" or unaffiliated volunteers, i.e., volunteers not affiliated with an authorized rescue or volunteer agency.<sup>242</sup>

Employers who directed their employees to respond to the WTC disaster are required under existing NYS Workers' Compensation laws to provide compensation to those employees who were injured as a result of those activities.<sup>243</sup> Generally, injury by accident is unexpected and occurs at a definite time, but if both factors are absent, "one sees the typical occupational disease."<sup>244</sup>

*Occupational Disease.* All states provide general compensation coverage for occupational diseases usually by codifying a limited list of diseases followed by a "catch-all" provision.<sup>245</sup> New York State defines an occupational disease as a "disease resulting from the nature of employment and contracted therein"<sup>246</sup> and provides a list of 29 specific diseases with a catch-all provision.<sup>247</sup> To be entitled to workers' compensation benefits based on an occupational disease theory, the disease must be caused by the

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<sup>240</sup> *Id.*

<sup>241</sup> Robert R. Snashall, Chair, New York State Workers' Compensation Board, *Revised Order of the Chair*, #967 (July 22, 2003).

<sup>242</sup> *Id.*

<sup>243</sup> N.Y. WORKERS' COMP. LAW § 10 (McKinney 2007).

<sup>244</sup> LARSON & LARSON, *supra* note 183, at 202.

<sup>245</sup> LARSON & LARSON, *supra* note 183, at 202.

<sup>246</sup> N.Y. WORKERS' COMP. LAW § 2(15) (McKinney 2007).

<sup>247</sup> *Id.* at § 3(2).

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actual nature of the employment with reference to the processes by which they are acquired.<sup>248</sup> If the alleged disease is caused by a condition in the environment of the workplace, it is not generally compensable under New York law.<sup>249</sup> Under the “nature of employment” requirement for occupational disease claims,<sup>250</sup> WTC responders had no recourse other than to file under personal injury by accident.

*Personal Injury by Accident.* Most cases of death or severe injury arising from the trauma of the WTC collapse demonstrated a prima facie case for personal injury by accident. However, when the condition develops over time—as opposed to suddenly—claims are more problematic under an injury by accident theory. The New York Legislature has limited the definition of “occupational disease” to diseases assignable to the specific nature of employment.<sup>251</sup> In some cases, an occupational disease has been filed as an accident and has been judicially determined<sup>252</sup> to meet the necessary standard as arising from “unusual environmental conditions or events assignable to something extraordinary . . . .”<sup>253</sup>

In addition to a requirement to give the employer notice of the injury or illness and to report any injury to the employer within thirty days of the accident, there is a two year statute of limitations on filing workers’ compensation claims.<sup>254</sup> Many

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<sup>248</sup> LARSON & LARSON, *supra* note 183, at 229.

<sup>249</sup> Harman v. Republic Aviation Corp., 82 N.E.2d 785, 786 (N.Y. 1948) (“An ailment does not become an occupational disease simply because it is contracted on the employer’s premises. It must be one which is commonly regarded as natural to, inhering in, an incident and concomitant of, the work in question. There must be a recognizable link between the disease and some distinctive feature of the claimant’s job, common to all jobs of that sort.”).

<sup>250</sup> ROBERT R. SNASHALL, CHAIRMAN, NEW YORK STATE WORKERS’ COMPENSATION BOARD, A STUDY OF OCCUPATIONAL DISEASE IN THE WORKERS’ COMPENSATION SYSTEM 13, *available at* <http://www.wcb.state.ny.us/content/main/TheBoard/odstudy.pdf> (last visited on May 1, 2007).

<sup>251</sup> N.Y. WORKERS’ COMP. LAW § 2(15) (McKinney 2007).

<sup>252</sup> Johannesen v. N.Y. Dep’t of Hous. Pres. & Dev., 84 N.Y.2d 129, 138–39 (N.Y. 1994); Engler v. United Parcel Service, 16 A.D.3d 969, 970 (N.Y. App. Div. 2005).

<sup>253</sup> *Johannesen*, 84 N.Y.2d at 138.

<sup>254</sup> See N.Y. WORKERS’ COMP. LAW § 2(28) (McKinney 2007).



responders did not become aware that the adverse health conditions they were experiencing could be related to their work at the WTC site until after the statutory time periods for filing workers' compensation claims had elapsed.<sup>255</sup> As a result, responders filing workers' compensation claims beyond September 11, 2003 were barred by operation of law.

By 2006, the "controversion"<sup>256</sup> of many responder claims led to a public outcry to extend the two-year statute of limitations.<sup>257</sup> The NYS Legislature extended the two-year filing deadline to allow claims for later-occurring conditions alleged to be causally related to exposures while participating in rescue, recovery, and clean up activities at the WTC to be recognized as occupational diseases and for claim filing and notice provisions to begin to run from the date of disablement rather than the date of exposure.<sup>258</sup>

The NYS Legislature did not enact an unlimited extension of time to file a claim for workers' compensation benefits related to disease arising from WTC exposures. Instead the legislation made the ability to file a claim in the future for later-occurring health

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[T]he right to claim compensation under this chapter shall be barred . . . unless within two years after the accident, or if death results therefrom within two years after such death, a claim for compensation shall be filed with the chairman, but the employer and insurance carrier shall be deemed to have waived the bar of the statute unless the objection to the failure to file the claim within two years is raised on the first hearing on such claim at which all parties in interest are present.

<sup>255</sup> Interview with Robert Snashall, former Executive Dir., N.Y. State Workers' Comp. Bd., in New York, N.Y. (Feb. 5, 2007) [hereinafter Interview with Robert Snashall].

<sup>256</sup> Controversion means challenging the legal validity of a claim. *See Your Business and Worker's Compensation, What to Do When An Accident Happens*, available at [http://www.wcb.state.ny.us/content/main/Small\\_Business/claimsprocess2.jsp](http://www.wcb.state.ny.us/content/main/Small_Business/claimsprocess2.jsp) (last visited on Nov. 9, 2007) ("The insurance carrier can contest the claim for a variety of reasons, including that the injury was not related to work, or the employee is not injured to the extent that he or she is claiming.").

<sup>257</sup> Interview with Robert Snashall, *supra* note 255.

<sup>258</sup> Act of Aug. 14, 2006, ch. 446, 2006 N.Y. Laws (adding a new article 8-A to the Workers' Comp. Laws of N.Y. State).

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effects contingent on “registering” with the Board before August 14, 2007.<sup>259</sup>

“[T]o register, those employees and volunteers who participated in the World Trade Center rescue, recovery and cleanup operations . . . must file with the Workers’ Compensation Board . . . a sworn statement, on Form WTC-12, listing the dates and locations of their participation in the rescue, recovery and cleanup efforts.”<sup>260</sup>

Filing the registration form does not constitute filing a claim, but it will give the Board some basis on which to predict future costs. Recently, the NYS Legislature extended the deadline for “registering” to August 14, 2008.<sup>261</sup>

In 2006, Congress rescinded \$125 million of the Board’s original 2002 appropriation,<sup>262</sup> but then reappropriated \$50 million to the Board to pay Uninsured Employers’ Fund<sup>263</sup> (“UEF”) claims filed by “first response emergency services personnel.”<sup>264</sup> In

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<sup>259</sup> *Id.* at § 162.

<sup>260</sup> Donna Ferrara, Extension of Filing Time in World Trade Center Rescue, Recovery and Cleanup Cases (Aug. 21, 2006), *available at* [http://www.wcb.state.ny.us/content/main/SubjectNos/sn046\\_159.htm](http://www.wcb.state.ny.us/content/main/SubjectNos/sn046_159.htm).

<sup>261</sup> Press Release, N.Y. State Workers’ Compensation Board, Deadline Extended for World Trade Center Responders and Volunteers to Register for Workers’ Compensation Benefits (July 10, 2007), *available at* <http://www.wcb.state.ny.us/content/main/PressRe/2007/DeadlineExtforWTCResponders.jsp>.

<sup>262</sup> Departments of Labor, Health and Human Services and Education and Related Agencies Appropriations Act, Pub. L. No. 109-149, 119 Stat. 2833, 2834 (2006).

<sup>263</sup> LARSON & LARSON, *supra* note 183, at 572

The most satisfactory solution to the uninsured employer problem is to provide an uninsured employer fund, as is done in a substantial and steadily growing number of states. The fund pays compensation to the employee of the uninsured employer, then turns upon the employer and calls it to account, armed with a battery of penalties, sometimes including fines and imprisonment, which cannot fail to impress the most elusive and irresponsible of employers.

<sup>264</sup> Department of Defense, Emergency Supplemental Appropriations to Address Hurricanes in the Gulf of Mexico and Pandemic Influenza Act, Pub. L. No. 109-148, 119 Stat. 2680, 2814 (2006).

light of the new legislation adding Article 8-A to the Workers Compensation Law, the Board determined that if such a claim by a WTC responder was challenged by the employer or the carrier, the UEF would be responsible for payment of medical benefits pending final adjudication of whether the individual was an employee or a volunteer.<sup>265</sup> If a final determination finds that the individual was an employee, then the employer would be required to reimburse the UEF.<sup>266</sup> The Board made it clear that its Order was not to be construed as extending the liability and/or responsibility of the UEF beyond the available funds appropriated by Congress in 2006.<sup>267</sup> It is most likely that medical payments will be paid only until the federal monies are exhausted; it is uncertain what funding mechanism would continue to pay medical benefits for those successful UEF claimants who need care.<sup>268</sup>

It is important to note that meeting a registration deadline is only one hurdle to WTC claimants. For those who register before the August 2008 deadline and subsequently develop an illness and make a claim based on their registration eligibility, medical evidence that their claimed conditions arose from their WTC work will still be required—no disease causation presumption has been built into the workers' compensation laws of NYS as of yet.<sup>269</sup>

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<sup>265</sup> DONNA FERRARA, NEW YORK STATE WORKERS' COMPENSATION BOARD, EXTENSION OF FILING TIME IN WORLD TRADE CENTER RESCUE, RECOVERY AND CLEAN UP CASES (2006).

<sup>266</sup> Interview with Cheryl M. Wood, former Chief Counsel, State of New York Workers' Compensation Board, in Albany, N.Y. (May 12, 2006).

<sup>267</sup> *Id.*

<sup>268</sup> *Id.*

<sup>269</sup> *Id.*

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By 2003, Congress was concerned enough with the possibility of tort suits brought by responders for damages to health to provide “up to \$1 billion to establish a captive insurance company or other appropriate insurance mechanism for claims arising from debris removal, which may include claims made by city employees.”<sup>270</sup> Congress also imposed liability protections for the airline industry and created a government financed September 11th Victim Compensation Fund.<sup>271</sup>

Most survivors of those killed in the attacks and those who were acutely injured opted to receive compensation through the Fund rather than file a tort claim.<sup>272</sup> Responders and residents, however, have filed at least three notable tort suits against government and private sector entities for longer-term damages to their health arising from the WTC disaster response.<sup>273</sup>

*1. In re World Trade Center Disaster Site Litigation*<sup>274</sup>

Rescue, recovery and cleanup workers who experienced adverse physical and mental health effects were largely excluded from seeking compensation from the Fund because of the short filing

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<sup>270</sup> Consolidated Appropriations Resolution, Pub. L. No. 108-7, 117 Stat. 11, 517–18 (2003).

<sup>271</sup> Georgene Vairo, *Remedies for Victims of Terrorism*, 35 LOY. L.A. L. REV. 1265, 1287–88 (2003).

<sup>272</sup> Ninety-eight percent of those who lost a loved one filed with the Fund and the Fund received 4,400 personal injury claims for which they issued 2,682 awards. Awards ranged from a low of \$500 to a high of over \$8.6 million after offsets. Compensation for Personal Injury Victims, Award Payment Statistics, September 11<sup>th</sup> Victim Compensation Fund, [http://www.usdoj.gov/archive/victimcompensation/payments\\_injury.html](http://www.usdoj.gov/archive/victimcompensation/payments_injury.html) (last visited on September 8, 2007).

<sup>273</sup> *In re World Trade Ctr. Disaster Site Litig.*, 456 F. Supp. 2d 520, 526–30 (S.D.N.Y. 2006); *Benzman v. Whitman*, No. 04 Civ. 1888(DAB), 2006 WL 3771014 (S.D.N.Y. Dec. 15, 2006); *Lombardi v. Whitman*, 485 F.3d 73 (2d Cir. 2007).

<sup>274</sup> *In re World Trade Ctr. Disaster Site Litig.*, 456 F. Supp. 2d 520 (S.D.N.Y. 2006).

deadline compared to the onset of ill effects after their WTC exposures. This was so because the filing deadline occurred prior to responders making a connection between adverse health effects they experienced and their activities at the WTC.<sup>275</sup>

Nearly 10,000 of these WTC responders, volunteers, and their survivors, filed suit in the United States District Court for the Southern District of New York (or their claims were consolidated there) for damages to their life and health.<sup>276</sup> Plaintiffs sued a number of different defendants, including: (1) the City of New York (which coordinated all the work of the WTC site through the City's Department of Design and Construction); (2) the Port Authority of the States of New York and New Jersey (the owner of the WTC site); (3) four of the city's major contractors (Bovis Lend Lease, AMEC Construction Management, Tully Construction Company, and Turner Construction Company) and their many subcontractors who undertook the recovery work; and (4) various entities with a property interest in buildings at, and around, the WTC site, including Verizon Communications, Consolidated Edison ("Con Ed"), the Silverstein Entities and the Westfield Entities.<sup>277</sup>

Plaintiffs claimed that NYC, its contractors, and other defendants were negligent in monitoring the air and assuring proper safety at Ground Zero, especially in failing to provide appropriate respiratory protection equipment and ensuring its proper use.<sup>278</sup> Defendants filed a motion to dismiss the plaintiffs' claims based on both state and federal laws providing immunity for actions taken in response to the WTC disaster, including the New York State Defense Emergency Act,<sup>279</sup> the New York Disaster Act,<sup>280</sup> the

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<sup>275</sup> See discussion *supra* Part III.B.1.

<sup>276</sup> The Air Transportation Safety and System Stabilization Act, Pub. L. No. 107-42, 115 Stat. 230, 240 (2001), provides in § 408(b)(3) that "The United States District Court for the Southern District of New York shall have original and exclusive jurisdiction over all actions brought for any claim (including any claim for loss of property, personal injury, or death) resulting from or relating to the terrorist-related crashes of September 11, 2001."

<sup>277</sup> *In re World Trade Ctr. Disaster Site Litig.*, 456 F. Supp. 2d at 525-26.

<sup>278</sup> *Id.* at 523.

<sup>279</sup> N.Y. UNCONSOL. LAW SDEA § 9102-a (McKinney 2006).

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Stafford Act,<sup>281</sup> and common law and derivative federal immunities.<sup>282</sup>

On October 17, 2006, the court issued an Order both denying in part and granting in part the defendants' motion for summary judgment.<sup>283</sup> The court carefully considered all state and federal laws that the governmental and non-governmental defendants claimed granted them immunity from liability, including the plaintiffs' claim that the legislative purpose behind the Air Transportation Safety and System Stabilization Act of 2001 was to preempt state and federal law providing immunity to NYC, its contractors, and other defendants.<sup>284</sup> The court considered the basis of immunity separately.<sup>285</sup>

*Air Transportation Safety and System Stabilization Act.* The court declined to extend federal preemption under the Air Transportation Safety and System Stabilization Act of 2001 "to preclude application of otherwise available state law immunity defenses" and declined to bar federal immunity doctrines "as contradictory to the alleged compensatory purpose of the Act."<sup>286</sup>

*New York State Defense Emergency Act.* In the case of the immunity available under the New York State Defense Emergency Act, the court found that determining "whether the emergency lasted for days, or weeks, or months, and in connection with which precise activities, are fact-intensive questions, not possible to answer in connection with a Rule 12 motion addressed to the pleadings."<sup>287</sup>

*New York Disaster Act.* The court declined to grant immunity to the City under the New York Disaster Act because "the Disaster's Act's grant of immunity is limited to actions that are emergent in their own quality, and not only because those actions

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<sup>280</sup> N.Y. EXEC. LAW §§ 20-19-g (McKinney 2006).

<sup>281</sup> 42 U.S.C. § 5148 (2006).

<sup>282</sup> *In re World Trade Ctr. Disaster Site Litig.*, 456 F. Supp. 2d at 547-62.

<sup>283</sup> *See Id.*

<sup>284</sup> *Id.* at 543-46.

<sup>285</sup> *Id.*

<sup>286</sup> *Id.* at 546.

<sup>287</sup> *Id.* at 554.

were intended to alleviate a previous emergency condition[.]”<sup>288</sup> The court also refused to grant immunity altogether to private contractors because the Disaster Act “expressly limits its grant of immunity to actions taken by political subdivisions and their employees and officers.”<sup>289</sup>

New York State Common Law Immunity. The court considered the governmental defendants’ (and Con Edison’s) claim that performance of uniquely governmental functions after the WTC attacks provided them with sovereign immunity but decided that “[t]he issue cannot be decided in the context of a motion for judgment on the pleadings. It requires a proper, and fully developed, factual record.”<sup>290</sup>

Derivative Federal Immunity. Defendants argued that the active participation of federal agencies in developing protocols for health and safety at the WTC site is enough to provide them with derivative federal immunity.<sup>291</sup> The court agreed that if the defendants acted according to specific instructions from a federal agency and under the control and direction of the federal agency, derivative immunity may be available; however, it would not exist where the defendants “act[ed] independently, or outside of, or in addition to, the government’s specifications.”<sup>292</sup> The court found, though, that the record presented did not allow it “to demark the boundary between federally instructed discretionary decisions, and those made by the various Defendants” and denied the motion for summary judgment based on derivative federal immunity.<sup>293</sup>

Stafford Act Immunity. Various defendants asserted immunity pursuant to the Stafford Act,<sup>294</sup> but the court declined to extend immunity under the Act to non-federal parties because “to do so would extend the Act beyond its plain terms.”<sup>295</sup> In reminding the

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<sup>288</sup> See *In re World Trade Ctr. Disaster Site Litig.*, 456 F. Supp. 2d 520, 558 (S.D.N.Y. 2006).

<sup>289</sup> *Id.*

<sup>290</sup> *Id.* at 559.

<sup>291</sup> *Id.* at 560.

<sup>292</sup> *Id.* at 566.

<sup>293</sup> *Id.*

<sup>294</sup> 42 U.S.C. § 5148 (2006).

<sup>295</sup> *In re World Trade Ctr. Disaster Site Litig.*, 456 F. Supp. 2d 520, 558

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parties that immunity is to be interpreted narrowly, the court commented on the defendants' argument that private parties should be encouraged by courts to enlist in recovery efforts from mass disasters.<sup>296</sup> The court stated that "the same policy has to be sensitive to the individual workers who risk their lives."<sup>297</sup> The court also explained that "the job of restoring society cannot be based on a system rewarding businesses, but being indifferent to the health and welfare of working people."<sup>298</sup>

*Other Bases for Federal Immunity.* The Port Authority and WTC Lessee defendants (Con Edison and Silverstein) argued that "the federal government's promise to pay . . . all the costs associated with rescue and recovery . . . makes the federal government the real party in interest" and therefore, plaintiffs' actions against them should be dismissed.<sup>299</sup> The court noted that indemnification may be sought by the defendants from the federal government, but that "such promise of payment, however, does not operate to suspend ordinary rules of rights and obligations running between a tortfeasor and his alleged victim."<sup>300</sup>

The court did, however, grant Con Edison's and WTC defendants' motions based on the fact that they "were immediately divested of control over their leasehold interests and were entirely denied access to their properties absent express authorization by the City and Port Authority."<sup>301</sup> The court denied the motions to dismiss made by the Port Authority, NYC, and its contractors, concluding that "the state and federal statutes that provide immunity protect the remaining defendants against suit, but the precise scope and extent of the immunity varies according to date, place and activity [and] . . . the fact-intensive nature of the issue

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(S.D.N.Y. 2006).

<sup>296</sup> *Id.* at 41.

<sup>297</sup> *Id.*

<sup>298</sup> *Id.*

<sup>299</sup> *Id.* (noting Defendants' reliance on Proclamation 7463—Declaration of National Emergency by Reason of Certain Terrorist Acts, September 14, 2001. 66 Fed. Reg. 48199 (September 18, 2001)).

<sup>300</sup> *Id.*

<sup>301</sup> *Id.* at 96.



makes its resolution unsuitable for resolution by motion.”<sup>302</sup>

2. Benzman v. Whitman<sup>303</sup>

In 2004, a lawsuit was filed in the U.S. District Court for the Southern District of New York by representatives of a class composed of (1) residents of Lower Manhattan (including Chinatown and the Lower East Side) and Brooklyn; (2) students attending schools in Lower Manhattan or Brooklyn; and (3) workers from places of employment in Lower Manhattan and Brooklyn, who were exposed to hazardous substances in the interior of their residences, schools, and workplaces as a result of the dust released from the WTC collapse.<sup>304</sup> The lawsuit named the former and current Administrators of the United States Environmental Protection Agency (“EPA”), as well as the former Assistant EPA Administrator, as defendants.<sup>305</sup>

Plaintiffs alleged four counts against the defendants.<sup>306</sup> In Count One, the plaintiffs allege a constitutional violation against individual defendants, Christine Todd Whitman, the former EPA Administrator and Marianne Horinko, the former Assistant Administrator.<sup>307</sup> Under Count One, the plaintiffs sought compensatory damages, reimbursement of costs, and the creation of a fund to finance a medical monitoring.<sup>308</sup>

In Count Two, plaintiffs alleged that the EPA violated the Administrative Procedures Act—specifically six regulatory

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<sup>302</sup> *Id.*

<sup>303</sup> First Amended Class Action Complaint, *Benzman v. Whitman*, No. 04-Civ. 1888, 2006 WL 250527 (S.D.N.Y. Feb. 2, 2006).

<sup>304</sup> *Id.*

<sup>305</sup> *Id.*

<sup>306</sup> *Id.*

<sup>307</sup> *Id.*

<sup>308</sup> *Id.* See also Victor E. Schwartz et al., *Medical Monitoring: The Right Way and the Wrong Way*, 70 MO. L. REV. 349, 361–62 (2005) (noting that the U.S. Supreme Court and a number of state supreme courts have refused to recognize medical monitoring as a cause of action absent present physical injury, while 11 states plus the District of Columbia allow medical monitoring claim to be made without a showing of present physical injury).

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provisions contained in the National Oil and Hazardous Substances Pollution Contingency Plan (“NCP”).<sup>309</sup> Count Three alleged a mandamus claim against EPA related to Count Two, and Count Four alleged a citizen suit claim against the EPA under the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”).<sup>310</sup>

Individual defendants moved to dismiss Count One for plaintiffs’ failure to state a claim upon which relief can be granted.<sup>311</sup> The EPA moved to dismiss Counts Two, Three, and Four for plaintiff’s failure to state a claim upon which relief can be granted and the court’s lack of jurisdiction over the subject matter.<sup>312</sup>

Count One. The U.S. Constitution does not expressly provide for a right of redress for a violation by a federal officer acting under color of authority which deprives an individual of a constitutional right.<sup>313</sup> In *Bivens v. Six Unknown Fed. Narcotics Agents*, the Supreme Court created a substantive due process right for damages against federal officers for violating an individual’s constitutional rights.<sup>314</sup> In *Rochin v. California*, the Supreme Court found that substantive due process encompasses an individual’s right to bodily integrity free from unjustifiable governmental interference.<sup>315</sup>

Even though the Supreme Court has recognized a substantive due process right to bodily integrity, the Court made clear in *DeShaney v. Winnebago County Dept. of Social Services* that “as a general matter . . . a state’s failure to protect an individual against private violence simply does not constitute a violation of the Due

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<sup>309</sup> First Amended Class Action Complaint, *Benzman v. Whitman*, No. 04-Civ. 1888, 2006 WL 250527, at \*23 (S.D.N.Y. Feb. 2, 2006).

<sup>310</sup> 42 U.S.C. § 9659 (1986). The citizen suit provision of CERCLA permits citizens to sue on their own behalf when, after giving notice, the government has failed to take actions to correct certain environmental harms.

<sup>311</sup> FED. R. CIV. P. 12(b)(6).

<sup>312</sup> FED. R. CIV. P. 12(b)(1).

<sup>313</sup> See *Benzman*, 2006 WL 250527, at \*12.

<sup>314</sup> 403 U.S. 388 (1971).

<sup>315</sup> 342 U.S. 165 (1952).

Process Clause.”<sup>316</sup> *DeShaney* provided two exceptions, however.<sup>317</sup> The first exception occurs when a “special relationship” exists between the state and the individual who claims protection such as when the state has custody of a prisoner.<sup>318</sup> The second exception—the “state-created danger” exception—exists when a state official takes an affirmative role either in creating the danger or in making the plaintiff more vulnerable to the danger.<sup>319</sup> However, actions of the state officials under the “state-created danger” exception must “shock the conscience.”<sup>320</sup>

The constitutional right that the *Benzman* plaintiffs asserted had been violated was their “substantive due process rights to bodily integrity, and more specifically their right to be free of official government policies that increase the risk of bodily harm[.]”<sup>321</sup> Plaintiffs’ claimed that defendants violated those constitutional rights when the defendants released statements in the days after the WTC attacks.<sup>322</sup>

The defendants argued: (1) no substantive due process right existed based on the facts of the case; (2) the “state-created danger” doctrine was clearly misapplied by the plaintiffs; (3) the asserted constitutional right was so infirm that it’s existence did not preclude a qualified immunity defense; and (4) even if a constitutional right was found to be clearly established, the actions of the EPA officials did not “shock the conscience.”<sup>323</sup> Based on these arguments, the defendants motioned the court for a dismissal of the case.<sup>324</sup>

Relying on a number of Circuit Courts’ opinions, the court found that the state-created danger doctrine was applicable “where

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<sup>316</sup> 489 U.S. 189, 197 (1989).

<sup>317</sup> *Id.* at 199.

<sup>318</sup> *Id.* at 199–200.

<sup>319</sup> *Id.* at 201. *See also* *Dwares v. City of New York*, 985 F.2d 94 (2d Cir. 1993).

<sup>320</sup> *County of Sacramento v. Lewis*, 523 U.S. 833, 847 (1998).

<sup>321</sup> *Benzman v. Whitman*, No.04-Civ.1888, 2006 WL 250527, at \*14 (S.D.N.Y. Feb. 2, 2006).

<sup>322</sup> *Id.* at \*6, 17.

<sup>323</sup> *Id.* at \*14.

<sup>324</sup> *Id.*

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the government affirmatively acts to increase the threat to an individual of third-party private harm,”<sup>325</sup> so long as a plaintiff can provide evidence that “a state officer’s conduct places a person in peril in deliberate indifference to their safety,”<sup>326</sup> and a person is harmed by police officers agreeing to “stand by” rather than protect a citizen from harm by third parties.<sup>327</sup>

In deciding on the dismissal motion and considering the facts in a light most favorable to the plaintiffs, the court then examined whether the defendants had merely failed to act or whether they had in some way assisted “in creating or increasing the danger” to the plaintiffs by affirmative acts.<sup>328</sup> The court found no shortage of affirmative acts by defendant Whitman: (1) making affirmative statements that the EPA would clean up building interiors to an acceptable level of safety, but failed to do so, and allowing residents, office workers, firefighters and school children to return to contaminated buildings on September 17, 2001; (2) knowingly disseminating false statements to victims of the attacks regarding the air quality; (3) delegating the task of cleaning indoor residences, schools, and commercial office buildings to entities other than the federal government; (4) endorsing and disseminating NYC’s grossly improper cleaning instructions; and (5) failing generally to ensure a clean-up of the WTC impact area and decontamination of buildings containing cancer-causing agents and other hazardous substances.<sup>329</sup>

The court concluded that like the police officers in *Dwares v. City of New York*, Whitman had taken affirmative acts that increased the danger to the plaintiffs from the WTC disaster. The court was emphatic about the defendants’ actions that it found particularly actionable.<sup>330</sup>

It is at this point, when the harmful emissions created a

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<sup>325</sup> *Coyne v. Cronin*, 386 F.3d 280, 287 (1st Cir. 2004).

<sup>326</sup> *Penilla v. City of Huntington Park*, 115 F.3d 707, 709 (9th Cir. 1997).

<sup>327</sup> *Dwares v. City of New York*, 985 F.2d 94 (2d Cir. 1993).

<sup>328</sup> *Benzman*, 2006 WL 250527, at \*15 (quoting *Dwares*, 985 F.2d at 94).

<sup>329</sup> *Id.* at \*19 (finding that the actions alleged were not attributable to defendant former EPA Assistant Administrator Horinko individually, the Court dismissed Count One against her).

<sup>330</sup> *Id.* at \*20.

danger to the public that Whitman, knowing the likely harm to those exposed to the hazardous materials, encouraged residents, workers and students to return to the area. By these actions, she increased, and may have in fact created, the danger to Plaintiffs, namely harm to their persons through exposure to the hazardous substances in the air after the WTC collapse. Without doubt, if Plaintiffs had not been told by the *head* of a federal agency entrusted with monitoring the environment that it was safe, plaintiffs would not have so readily returned to the area so soon after the attacks.<sup>331</sup>

The court then turned to Whitman's defense of qualified immunity but found that the defense was not available to the defendants because "[n]o reasonable person would have thought that telling thousands of people that it was safe to return to Lower Manhattan, while knowing that such return could pose long-term health risks and other dire consequences, was conduct sanctioned by our laws."<sup>332</sup> To this end, the court decided that "Defendant Whitman is not entitled to the defense of qualified immunity" on a motion to dismiss.<sup>333</sup> Defendant Whitman has filed an interlocutory appeal of this decision to the Second Circuit Court of Appeals and the appeal is pending.<sup>334</sup>

Counts Two, Three and Four. The court retained Count Two but dismissed Counts Three and Four against the EPA. The EPA has appealed to the Second Circuit and the Appeal is pending.<sup>335</sup>

### 3. *Attempt to Intervene in Benzman v. Whitman*

In February of 2006, a group of WTC recovery and cleanup workers—part of the group of thousands of plaintiffs of *In re*

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<sup>331</sup> *Id.* at \*19 (emphasis in original).

<sup>332</sup> *Id.*

<sup>333</sup> *Id.* at \*20.

<sup>334</sup> *Benzman v. Whitman*, No. 04-Civ.1888, 2006 WL 250527, at \*20 (S.D.N.Y. Feb. 2, 2006) (Defs.' Notice of Interlocutory Appeal, March 8, 2006).

<sup>335</sup> *Id.* (Defs.' Motion to Certify Order for Interlocutory Appeal and to Stay Proceedings and Incorporated Mem. of Law, March 9, 2006).

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*World Trade Center Site Litigation*—filed a motion to intervene in the EPA litigation.<sup>336</sup>

On October 20, 2006, their motion to intervene was denied by the U.S. District Court for the Southern District of New York<sup>337</sup> on the grounds that, to the extent the putative intervenors have an interest in this case, that interest is adequately protected by the plaintiffs.<sup>338</sup>

Subsequently, in a motion for reconsideration, petitioners asserted that the court was incorrect in its previous order when it dismissed their claims for medical monitoring. Petitioners added new arguments challenging the adequacy of the plaintiffs' protection of their interests.<sup>339</sup> In a December 15, 2006 memorandum and order, the court found unpersuasive the putative intervenors' new reasons for why they should intervene and thus denied their motion to reconsider.<sup>340</sup> Putative intervenors filed an appeal to the U.S. Appeals Court for the Second Circuit but voluntarily withdrew their appeal without prejudice.<sup>341</sup>

#### 4. Lombardi v. Whitman<sup>342</sup>

A third law suit was filed by five WTC responders who performed search, rescue, and cleanup work against a group of federal government officials, including a former EPA Administrator and a former Assistant Secretary of Labor for the Occupational

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<sup>336</sup> *Id.* (Mem. of Law in Support of Claimants' Mot. To Intervene, Feb. 21, 2006).

<sup>337</sup> *Id.* (Order, Oct. 20, 2006).

<sup>338</sup> *Id.*

<sup>339</sup> Mot. for Reconsideration, *Benzman v. Whitman*, 2006 WL 3879748 (Nov. 6, 2006).

<sup>340</sup> *Benzman v. Whitman*, No. 04-Civ. 1888, 2006 WL 3771014 (S.D.N.Y. Dec. 15, 2006) (memorandum and order denying motion to reconsider the court's October 20, 2006 order denying leave to intervene).

<sup>341</sup> Notice of Appeal from October 20, 2006 Order, *Benzman v. Whitman*, No. 04 Civ. 1888, 2006 WL 3771014 (S.D.N.Y. Dec. 15, 2006).

<sup>342</sup> *Lombardi v. Whitman*, No.-04-CV-9272, 2006 U.S. Dist. LEXIS 4464 (S.D.N.Y. Feb. 3, 2006) *aff'd*, 485 F.3d 73 (2d Cir. 2007).

Safety and Health Administration (OSHA).<sup>343</sup> In *Lombardi v. Whitman*, the plaintiffs, like the plaintiffs in *Benzman*, sought a *Bivens* constitutional tort remedy.<sup>344</sup> They alleged the defendants knowingly made false reassurances that the air in NYC after the WTC disaster was safe to breathe, that such reassurances were the proximate cause of their injury, and that that the defendants' conduct violated their right to substantive due process.<sup>345</sup>

Defendants filed a motion to dismiss and the case was heard by Judge Hellerstein of the U.S. District Court for the Southern District of New York.<sup>346</sup> In support of this motion, the defendants argued that, at the time of the WTC disaster response, the named plaintiffs were NYC, NYS, or federal government employees, and therefore, workers' compensation laws or federal immunities bar their suits.<sup>347</sup> Furthermore, the defendants rejected the plaintiffs' assertion that a constitutional tort remedy existed and, like in *Benzman*, argued that even if the court held that such a claim was valid, the defendants would be entitled to a qualified immunity defense.<sup>348</sup>

On February 3, 2007, the court granted the defendants' motion to dismiss for plaintiff's failure to state a claim.<sup>349</sup> The court found unpersuasive the plaintiffs' argument that a clearly established constitutional right had been violated and noted that *Bivens* and its progeny concern police misconduct, false arrest, improper searches and seizures, and freedom of speech fact violations.<sup>350</sup> The court found the *Bivens* cases were not equivalent to a claim seeking

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<sup>343</sup> *Id.* at 74–75.

<sup>344</sup> *Id.* at 84–85.

<sup>345</sup> *Id.* at 76.

<sup>346</sup> Defendants' Motion to Dismiss the Plaintiff's Complaint, *Lombardi v. Whitman*, No. 04-CV-9272, 2006 U.S. Dist. LEXIS 4464 (S.D.N.Y. Feb. 3, 2006), *aff'd*, 485 F.3d 73 (2d Cir. 2007).

<sup>347</sup> *Id.*

<sup>348</sup> *Id.*

<sup>349</sup> Summary Order, *Lombardi v. Whitman*, No. 06-CV-9272, 2006 U.S. Dist. LEXIS 4464 (S.D.N.Y. Feb. 3, 2007).

<sup>350</sup> Philip E. Kamel & Peter R. Paden, *Public Liability for Catastrophic Events*, N.Y.L.J. 3, 6 (2006) (citing Transcript of Oral Argument, *In re* Sept. 11 Disaster Site Litigation, 21 MC 100, February 2, 2006 ("Tr.")[sic].

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damages from a former EPA administrator: “[T]here is no clear statement that anyone has told me about nor I recognize myself that a constitutional right was being violated when Administrator Whitman issued the statement that she issued, regardless of whether it was true or not true.”<sup>351</sup> The court saw an ordinary tort for which the government had not waived its immunity under the Federal Tort Claims Act, and therefore, the plaintiffs’ claim was not actionable.<sup>352</sup>

In explaining its reasoning, the court noted that the “administration had to deal with a situation of concern, of fear [for] safety, of a need to get on with [the] work of the community, to avoid an economic catastrophe as well as a physical catastrophe to the City of New York, and what was said was said.”<sup>353</sup> The plaintiffs appealed to the Second Circuit Court of Appeals.<sup>354</sup>

On April 19, 2007, a three judge panel of the Second Circuit unanimously affirmed the District Court’s dismissal.<sup>355</sup> In an opinion written by Chief Judge Jacobs, the court held that “because the conduct at issue here does not shock the conscience, there was no constitutional violation.”<sup>356</sup>

In an ominous sign for future appellate review of the *Benzman* decision, the court took issue with *Benzman*’s conclusion that the reassuring statements made by EPA officials in the same press releases were conscience-shocking based on the nature of EPA’s statutory mandate.<sup>357</sup> The Second Circuit panel chided the District

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<sup>351</sup> *Id.* (quoting Tr. at 38).

<sup>352</sup> *Id.*

<sup>353</sup> *Lombardi v. Whitman*, 485 F.3d 73, 78 (2d Cir. 2007) (quoting Mot. To Dismiss Hr’g Tr. at 49, *Lombardi v. Whitman*, No. 04-CV-9272 (S.D.N.Y. Feb. 2, 2006)).

<sup>354</sup> *Lombardi*, 485 F.3d at 74.

<sup>355</sup> *Id.*

<sup>356</sup> *Id.* at 85.

<sup>357</sup> *Id.* at 84. The court explained:

The EPA is designated as the agency in our country to protect human health and the environment, and is mandated to work for a cleaner, healthier environment for the American people. The agency enforces regulations regarding pollution in our environment and the presence of toxic and hazardous substances, and has endorsed and promulgated



Court for focusing too narrowly on the EPA “without considering the other substantial government interests at stake.”<sup>358</sup> The court further noted that government officials and agencies must often balance risks of harm when they make a policy decision, but that “a poor choice made by an executive official between or among the harms risked by the available options is not conscience-shocking merely because for some persons it resulted in grave consequences that a correct decision could have avoided.”<sup>359</sup> Understanding that government officials might “default to silence in the face of the public’s urgent need for information” if they knew they would face a lawsuit for disseminating inaccurate information, the court opined that “when great harm is likely to befall someone no matter what a government official does, the allocation of risk may be a burden on the conscience of the one who must make such decisions, but does not shock the contemporary conscience.”<sup>360</sup>

#### CONCLUSION

The terrorist attacks on the World Trade Center triggered unprecedented responses on the part of government and the private sector. Together with the rescue, recovery and cleanup operations that began on September 11, 2001, efforts aimed at compensating victims of the attacks through insurance, charitable giving and government aid also got underway almost immediately after the attacks.<sup>361</sup> Later, many disaster rescue, recovery, and cleanup responders filed tort claims, some of which are still in litigation.<sup>362</sup>

Nearly seven years after the terrorist attacks, some

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regulations for hazardous and toxic materials, such as asbestos and lead. As head of the EPA, Whitman knew of this mandate and took part in and directed the regulatory activities of the agency. Given this responsibility, the allegations in this case of Whitman’s reassuring and misleading statements of safety after the September 11, 2001 attacks are without question conscience-shocking. *Id.*

<sup>358</sup> *Id.* at 84.

<sup>359</sup> *Id.* at 85.

<sup>360</sup> *Lombardi v. Whitman*, 485 F.3d 73, 84–85 (2d Cir. 2007).

<sup>361</sup> *See supra* Part III.

<sup>362</sup> *See supra* Part III.D.

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firefighters,<sup>363</sup> other disaster responders and volunteers,<sup>364</sup> and some occupants of nearby residences, commercial buildings, and schools have developed symptoms from their World Trade Center exposures.<sup>365</sup> Medical evidence indicates an elevated prevalence of aerodigestive and mental health problems in some members of these populations exposed to debris, dust and smoke from the World Trade Center.<sup>366</sup> Medical monitoring of all exposed populations, together with the medical treatment for those whose illnesses can be qualitatively linked to their World Trade Center exposures, is necessary to determine the true, long term health effects resulting from the WTC disaster and to provide compassionate care for those who still suffer ill health from the WTC disaster.

Compensation mechanisms that were employed in the weeks and months following the terrorist attacks—insurance, charitable giving, and government aid—were an important way to make victims whole again and should receive serious study and evaluation as models for handling future terrorist events. The role of tort remedies in the September 11, 2001 terrorist disaster remains uncertain, but that role should also be subject to evaluation as it comes into better focus. Scholarly study and evaluation of the medical and legal ramifications of the World Trade Center disaster is as important as our current federal, state, and municipal efforts to prepare for and respond to another terrorist attack.

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<sup>363</sup> *See supra* Part II.A.

<sup>364</sup> *See supra* Part II.B.

<sup>365</sup> *See supra* Part II.D.

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